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EDGE

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The emulation game

Resurrecting videogaming's classics

Life after Quake for

John Romero

Inside:

- AM3
- G Police
- Populous 3
- Goemon 64
- Bomberman 64
- Castlevania 64
- Metal Gear
- Dark Vengeance
- Actua Sports
- Silicon Dreams
- Pure Entertainment

N64: The clock is ticking for Mission Impossible

Inside issue 45: **Edge** visits Ocean's American development HQ to uncover the secrets behind their ambitious Nintendo 64 project, *Mission Impossible*. Plus, exclusive reports from Tokyo: Sega's AM3 supremos and the gigantic Tokyo Game Show

Issue forty-five

Future

May

45







As the PC behemoth rapidly morphs into a medium to employ the latest advances in 3D technology, already the format's Achilles heel – a premature level of obsolescence – has spread rash-like to the technology fuelling this transformation.

It is only six months since VideoLogic introduced its Apocalypse PowerVR technology to PC gamers and already a faster, newer model is preparing to hit the market. While this may be good news for game developers keen to exploit more potent silicon, there has to be concern for those consumers having already taken the plunge with its primary technology. Fortunately, VideoLogic has provided a smooth and inexpensive upgrade path for existing owners but grey areas remain: how many times will this happen, and with how many cards? And how, exactly, will Microsoft's efforts with Direct3D keep track of the changes? Rely on **Edge** to keep abreast of the enigma that is PC 3D.

Paradoxically, just as the PC is the driving force behind future videogaming technologies, it is also the format of choice for looking to the past. Almost every day the Internet offers updated versions of emulators capable of reanimating not only ancient arcade games but also the entire catalogues of well-loved machines such as the C64 and Spectrum. This, more then any other videogaming medium, could provide ample evidence of whether retro gaming is in fact exposing holes in the design of most modern titles or is, as many suggest, little more than misty eyed nostalgia. **Edge**'s analysis of the emulator phenomenon starts on page 68 and continues next issue.

The future is almost here...







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Cover

Mission Impossible, Paramount Pictures

FEATURES



44

Lunatik



48

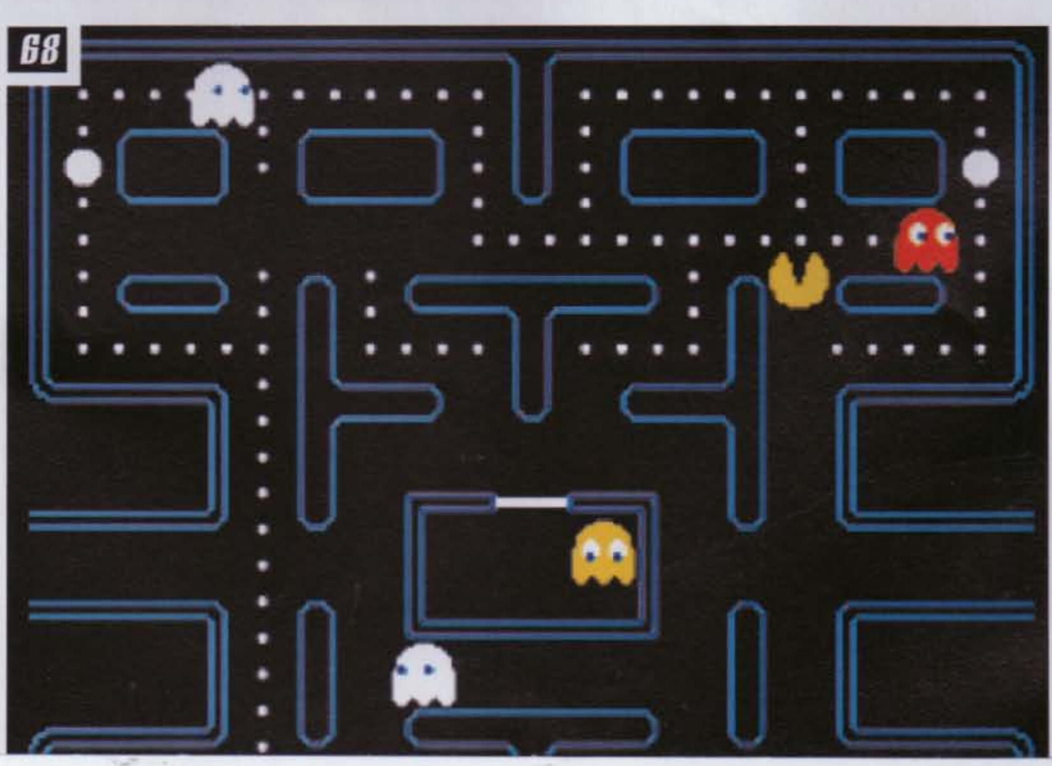


Silicon Dreams' *World League Soccer*



58

Actua Ice Hockey



68





The Tokyo Game Show



G-Police



Baku Bomberman



Interstate '76



Mission: Impossible



Dreams



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Top Skater and PF573



Namco Vol 5

REGULARS



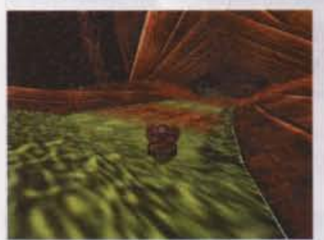
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THE LATEST NEWS FROM THE WORLD OF INTERACTIVE ENTERTAINMENT

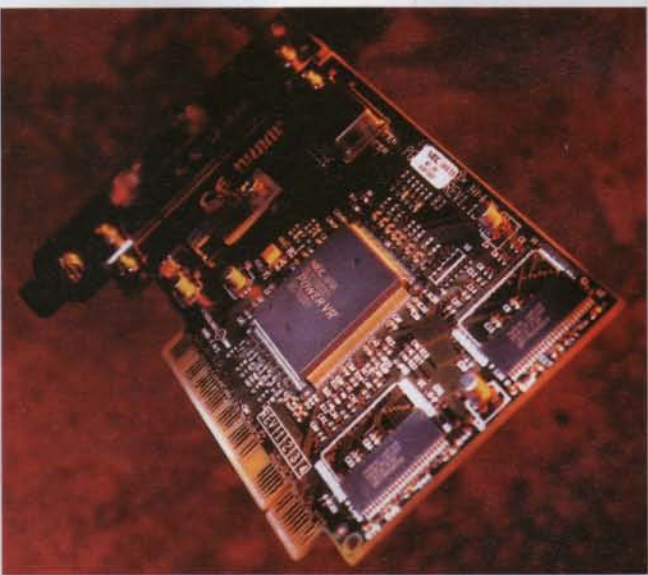
Graphics card war erupts as PowerVR accelerates

VideoLogic launches PCX2, the successor to its PowerVR PCX1 3D technology









VideoLogic's PCX1 technology has been superseded by its PCX2 chipset which will hit shops in June. It will afford its games filtered textures and will launch with *Ultimate Race* (top left), *Wipeout 2097* (left) and *Pod*

Just as it looked as though two leaders had finally emerged from the pre-Christmas accelerator free-for-all, VideoLogic is preparing to unleash PCX2, another, albeit much-improved, 3D chipset on an unsuspecting public.

The company has been touring developers and press alike to preach the benefits of the new technology in an attempt to steal some of the damaging 'feel good factor' that has sprung up around the competition of late.

This it may well achieve, but looking to replace a card that was launched as recently as November could create an unwelcome level of confusion as consumers hold back, wary of buying a potential white-elephant, an all too familiar experience for PC owners, trapped on the merry-go-round of endless upgrades. As the war between PowerVR and 3Dfx intensifies, the situation can only get worse.

Despite a concerted pre-Christmas effort, VideoLogic's PowerVR standard seemed to many to have lost the first of its battles with rival 3Dfx. Its lack of filtering, comparatively poor D3D drivers and less than enthusiastic support from developers has left it running to catch up with the leaner, highly specced Voodoo Graphics set. The company claims that the imminent release of PCX2 will give it the edge, at least temporarily, over 3Dfx.







The main advantage of the PCX2 chip is its improved screen fill rate, which allows games to run faster and in hi-res modes greater than 800x600. (From left) *Terracide*, *Resident Evil* and *Mechwarrior 2* look impressive in these resolutions, though none of these are particularly polygon-heavy

The new chip addresses some, though not all, of the problems inherent with PCX1. It does, at last, provide bilinear texture filtering, an essential effect so glaringly absent from the original. This will dispense with the ugly pixellation problems that plagued the otherwise impressive showcase titles that accompanied the PowerVR cards at launch. Though the addition of filtering is welcome, many consumers and developers alike must still be asking themselves why it was omitted in the first place, only to be included in an all-new chip just six months down the line. For those who bought one of the numerous cards on offer during the Christmas period, this is likely to be particularly galling; yet another example of PC hardware with an almost comically short shelf life.

To be fair, this does seem to have caused the company a few sleepless nights. On the one hand, the PCX2 should reap the benefits of the forthcoming wave of D3D titles, and all the new adopters that go with it. On the other, VideoLogic already has thousands of loyal customers who only recently shelled out over £150 for the now obsolete PCX1. To keep them sweet, the company will be offering an upgrade to existing owners for the knock-down price of £59, as opposed to £160.

In a particularly aggressive stance, it will also be offering 3Dfx owners a competitive upgrade to PCX2 for just £100. The question is, why would an existing 3Dfx devotee trade up?

On reason could be the double whammy of pack-in titles *Resident Evil* and *Wipeout 2097* (both extreme-developed titles making full use of the new chipset), not to mention the stunning *Ultimate Race* and an enhanced *Mechwarrior 2*. However, while VideoLogic claims PCX2 delivers a 40% leap over 3Dfx there is little evidence to support this with only *Mechwarrior 2* showing a detectable speed increase over its PCX1 counterpart.

Of course, until improved D3D drivers come along to exploit the chip, PCX2's real colours won't be revealed. And this has been and continues to be the main problem faced by VideoLogic. While 3Dfx's drivers and libraries are relatively easy to employ and yield impressive results, PowerVR's still lag behind by comparison which has limited its developer support. Also, the fact that PowerVR-native titles are thin on the ground is something that will need addressing if is to advertise the advanced features of its chipset.

As for 3Dfx, the company won't be releasing any new hardware for some time, and seems confident that its Voodoo Graphics chipset will remain competitive at least until Christmas.

'With PCX2, the shortcomings of the technology have been addressed, and fixed, though not completely,' said **Andy Keane**, 3Dfx's vice president of marketing, when invited to share his opinion about VideoLogic's upgrade.

'The real problem that they have is that they simply don't have the support we enjoy from the development community. As for the next 3Dfx chip, all I can reveal at this point is that it won't be called "Banshee", as some have claimed, that it will be extremely powerful and that you will see it by the end of the year.'

PCX2 specs

Integrated floating to fixed point processing

Resolution modes from 640x480 –1024x768 in 16bit and 24bit colour

Bilinear and adaptive bilinear filtering, multi-mode translucency, mip-mapped texturing, Gouraud shading

1.5 million textured, shaded polys/second (560,000/sec sustained D3D performance)

Up to 70 million pixels/sec fill rate (46 million/sec sustained D3D performance)

4Mb SDRAM on-board texture memory

Clock speeds to 70MHz with 66MHz PCI bus option







VideoLogic rival 3Dfx seems unperturbed by the recent announcement by VideoLogic. And little wonder: the current crop of 3Dfx titles (*G-Police*, far right, *Moto Racer*, centre) amply showcase the power of the Voodoo Graphics chipset

Tokyo Game Show: calm before the E3 storm

Japan's biggest game show plays host to a fervent domestic development community





Sega's presence was marked by demos of Saturn titles *Sonic Jam* (top) and *Last Bronx*

Although less than a year old, the Tokyo Game Show has already become a major event for the Japanese gaming calendar.

Despite the absence of Nintendo – a company that still prefers to hold its own exhibition in November – the show attracted over 120,000 visitors in the three days it was open and provided a public stage for the unveiling of a staggering 459 software titles. This figure could be broken down into 41% for the PlayStation, 31% for the Saturn, 10% for *Windows* and just 5% for the Nintendo 64.

With the global importance of E3 looming, The TGS was not the platform for major announcements from Japan's videogaming heavyweights. So despite expectations running high for technology demos from Sega (its *VF3* cartridge accelerator) and Panasonic (a working M2 console), it was left to the software titles to generate the excitement, with fleeting glimpses of Konami's forthcoming N64 title *Dracula 3D* and SNK's *Samurai Spirits 64* topping the bill.

Sega's main allure was the debut of its first 3D *Sonic* game for the Saturn. Except that *Sonic Jam*'s *Mario 64*-style content is merely a front-end for a collection of 16bit *Sonics* assembled together on a Saturn CD in now customary, retrogaming fashion.

Of more interest was another sequel to its eminently stylish fantasy shoot 'em up *Panzer Dragoon*, and the first RPG excursion into the series. *Azel Panzer Dragoon RPG* takes place in the same imaginative world as its predecessors but uses some new characters and introduces third-person realtime exploration areas that the player traverses on foot. A conversion of AM Annex's *Sega Touring Car Championship* was also presented to a keen crowd of Saturn fans with division head **Tetsuya Mizuguchi** announcing that the game would contain 'a revolutionary feature allowing players from different countries to compete together.'







The Saturn remains a strong platform in Japan despite pressure from Sony, as testified by its comprehensive presentations at the show

A 30%-complete version of *Last Bronx* also came under the spotlight along with new racing sim *Tactics Formula One* and RPG *Solo Crisis* (from *Actraiser* creator Quintet).

Konami's presence at the show was marked by a beautiful-looking *Goemon 5* running in playable form on the N64. Looking similar to *Mario*, but with more polished







***Sonic* and *NiGHTS* designer Yuji Naka (third from left in photo, left) was present to witness the unveiling of new Saturn titles including *Azel Panzer Dragoon RPG* (above left). AM Annex chief Tetsuya Mizuguchi was also on hand for the *Touring Car* demo**

the show attracted over 120,000 visitors in the three days it was open and provided a public stage for the unveiling of a staggering 459 software titles.







Namco's large stand carried playable demos of its first light-gun games, *Time Crisis* and *Gun Bullet* – the latter a conversion of its sprite-based coin-op. The company also announced its plans for a *Tekken 3* PlayStation conversion

textures, it affirmed that Konami has what it takes to make A-grade 64bit titles.

Also of great interest to N64 fans (and the envy of many 32bit console owners attending) was a brief demo of *Dracula 3D* – its long-anticipated *Castlevania* title. This was clearly still in concept stage as the 30-second video revealed little but a 3D sequence with characters rendered in sparse and blocky polygons sporting few textures. Luckily it did warm the hearts of the many otakus who have long craved a next generation 3D version of their favourite action series.

Other lower-key titles revealed by the company were the PlayStation duo *Midnight Run 2* (a conversion of the coin-op racer) and *Other Life Azure Dream* (a new and sumptuous-looking RPG). Other less prominent developments included Saturn and PlayStation versions of the *Salamander* series as well as Konami's first *Windows* conversions which include classic titles such as *Gradius*.

Warp's Kenji Eno, in typically unconventional fashion, turned heads at TGS by designing his stand around a Japanese 'Hanami' theme with a tree covered in cherry blossom. Within an area closed to the public, Eno's 30 promotional girl staff, dressed in blue summer kimonos, spent their time at the show sitting under the tree chatting, drinking and eating in traditional Hanami style.

Between bouts of presenting famous Japanese comedians and even a spot of ivory tinkling with a professional band, Eno did manage to reveal demos of Warp's M2 extravaganza, *D2*, and his bizarre non-graphic, sound-only game, *Real Sound*, for the Saturn. This counts on the player listening to the story to make choices without relying on any game imagery at all. Rumour has it that Eno's decision to defect from Sony to Sega was because Sony refused to publish the game.

THE SHOW ATTRACTED 120,000 VISITORS AND PROVIDED A PUBLIC UNVEILING OF A STAGGERING 459 SOFTWARE TITLES





Warp's Kenji Eno elected to build a Hanami garden, as well as hammering out some classy piano tunes (top)







Imagineer (top), Sega and Hudson's *Virus* (centre) and Capcom's stunning *Biohazard 2*



Square Soft's huge stand encompassed potential biggies such as Tobal 2 and Final Fantasy Tactics (above). No sign of its 3D shoot 'em up *Zauver*, though



Some of the show's 459 games: (top row, from left) ***Rockman X4*** **(PS),** ***Samurai Spirits 64*** **(Neo-Geo 64),** ***Dracula 3D*** **(N64),** ***Front Mission 2*** **(PS); (second row, from left)** ***Ultra Battle Royale*** **(N64),** ***Ghost in the Shell*** **(PS),** ***Blaze and Blade*** **(PS),** ***Last Bronx*** **(Sat); (third row, from left)** ***Vanark*** **(PS),** ***Sonic Jam*** **(Sat),** ***Grandia*** **(Sat),** ***Bulk*** **(Sat); (bottom row, from left)** ***Azel Panzer Dragoon RPG*** **(Sat),** ***Zero Divide 2*** **(PS),** ***Nessa No Hon*** **(PS),** ***Moebius*** **(PS)**





Konami's *Goemon 5* was a definite hit – with gamers of all shapes and sizes

◀ Presumably it didn't relish the prospect of printing screenshots on the box…

Sony's efforts centred around a huge stand for its much-vaunted PlayStation shoot 'em up, *Ghost in the Shell*. This futuristic tank game allows the player to jump and climb on top of buildings in a style that could only be described as *Jumping Flash* meets *Doom*. The popularity of the game was borne out by the long lines of gameheads that gathered in front of the monitors. And, yes, the competition for a go proved too feirce for **Edge** to get a chance to see what all the fuss was about.

Sony's other big crowd-pullers include its attractive top-down RPG, *Aundra*, and strategic flight sim-cum-RPG, *Beldeselva* (just released in Japan).

SquareSoft's booth was naturally the busiest at the show, though. As well as the superb-looking *Tobal 2*, its main attraction was a playable version of *Final Fantasy Tactics*. This battle simulation-style RPG bears similarities to Square's *Tactics Ogre* SNES title but includes *Final Fantasy* characters. The rotating 3D graphics were impressive nonetheless.

Other big Square news was a PlayStation adaptation of the respected SNES strategy title *Front Mission*. Again, major enhancements have been made to the graphics with the military-themed scenario now decked out in glorious, textured 3D.

Namco meanwhile concentrated its efforts on its first light-gun game for the PlayStation, *Gun Bullet* – a conversion of a fun coin-op targetted at younger players than its polygon stablemate *Time Crisis*.

The latter title was also shown to be in fine form and a release date of late June was announced at the show.

Apart from *Ace Combat 2* and confirmation of a *Tekken 3* conversion for the PlayStation, it was plain to see that Namco was holding some cards close to its chest.

No doubt this year's E3, which is due to be held in Atlanta in late June, will give the company – and many of the show's other more reticent exhibitors – a chance to throw them on the table.

New SCEA boss

Ken Kutaragi, the principal designer behind the PlayStation, has been appointed chairman and CEO of Sony Computer Entertainment of America. The evidently multi-faceted Kutaragi-san will be dividing his workload between research and development and global and North American management.. No doubt a good deal of his time will be spent keeping his console one step ahead of the N64

DMA snatched by **Gremlin**

Premier Scottish codeshop DMA Design has been bought by Gremlin Interactive

Gremlin Interactive has purchased acclaimed software developer DMA Design in what could turn out to be the most significant takeover of 1997.

The Dundee-based creator of *Lemmings* is currently finishing three titles for BMG (*Tanktics*, *Silicon Valley* and *Grand Theft Auto*) and one for Nintendo (*Body Harvest*), but all future development will be through Gremlin.

Although later titles are likely to be released under the general Gremlin Interactive monicker, the DMA Design name will remain for the short term and the company will retain a semi-autonomous status.

As for the consequences of the move, Gremlin – which has previously relied heavily on in-house development – will receive a significant boost both in terms of software output and global status. Plus, DMA has strong ties with Nintendo and significant experience with the N64, so Gremlin could be looking to forge a route into 64bit development. With DMA head David Jones taking up a position on Gremlin's board, it's certain that the rest of Gremlin will benefit from his creative input.

One thing that remains uncertain at this point, however, is how the takeover will affect DMA's recent partnership agreement with Epic Megagames, whose *Unreal* is set to be published by GT Interactive. **Edge** will be watching the situation closely over the next few months.

David Jones (second from right) has seen the good ship DMA Design boarded by Sheffield-based Gremlin





DMA's current projects include N64 title *Body Harvest* (top) and *Grand Theft Auto* for the PC

M2: game **on?**

Despite speculation over the M2's future, 3DO has arranged a summer software unveiling



Contrary to rumours, a finished M2 unit will not be shown at the 'summer gamers' day'

3DO has arranged a press-only 'summer gamers' day' on May 16, at its San Francisco HQ, where it plans to debut the first batch of games for the system, with or without the blessing of Matsushita.

Expected to be showing at the event are Perceptions' 3D RPG *Power Crystal*; an update of 3DO's in-house split-screen combat game, *Battlesport*; and two as-yet-unnamed titles, going under the provisional labels of 'M2 racing game' and 'M2 baseball game'.

Although little is known about the baseball title, the racing game has already been revealed to journalists in the form of a video demo shown off at E3 in 1995. Nothing has been revealed since, however, and rumours recently surfaced that the demo was actually a prerendered sequence which bore no relationship to M2's realtime abilities (see Myths feature, **E**43).

Meanwhile, rumours circulating within the software industry suggest that Matsushita may make a full announcement about the launch of the M2 – and indeed the format's future – at this year's E3. The Japanese electronics giant, however, is currently remaining tight-lipped.

The ongoing M2 saga has been one of the videogame industry's most intriguing stories in recent years, and it seems that a lot of questions will soon be finally answered.



The M2 racing game due to be unveiled on May 16 was first shown in video form at 1995's E3. The finished game is unlikely to look this hot

(out there)

REPORTAGE FROM THE PERIPHERY OF THE VIDEOGAMES INDUSTRY

Kong hits the box

Having appeared in dozens of classic videogames (from Game & Watch to Game Boy, NES and SNES titles), Nintendo's second most famous character, Donkey Kong, is now embarking upon a television career.

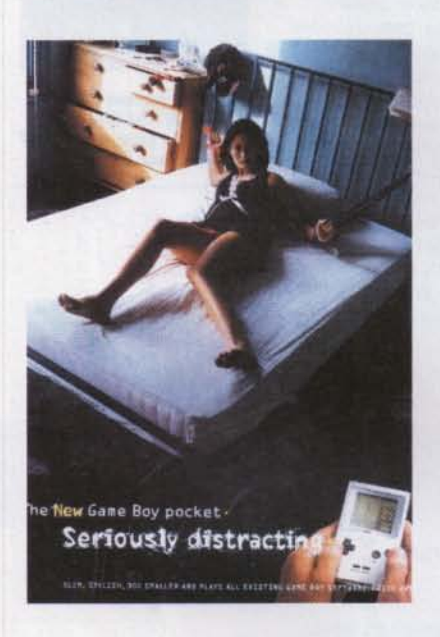
Medialab, an animation and virtual reality company, has acquired the rights to use Miyamoto's primate hero in 'Donkey Kong Country', a CGI cartoon series produced using the company's proprietary 'performance animation' software. According to Medialab (also responsible for 'Reboot' – the first ever completely CGI-animated series), this technology allows 3D computer-generated characters to be animated and rendered in realtime, reducing the production costs usually associated with standard key-frame animation. Plus, through the use of Medialab's motion-capturing system, the animated character can be given natural human movements and a huge range of facial expressions.

But this will not be Medialab's first experiment with their impressively life-like Kong model. He has already appeared in a French TV show for children named 'Planet Donkey Kong' where the rendered ape idol 'interacted' with a live human co-host (see photograph). Unlike 'Planet Donkey Kong', however, 'Donkey Kong Country' should



receive worldwide distribution through Canadian producer Nelvana Limited.

The 26-part series is premiering in the States this Autumn and may appear in the UK soon after.



Nintendo babe axed

The Advertising Standards Authority has upheld four complaints against a recent Game Boy Pocket ad and has asked Nintendo to withdraw it. The magazine advertisement, which featured the headline 'seriously distracting', showed a scantily clad woman tied to a bed while her boyfriend played on his Game Boy Pocket – the implicit suggestion presumably being that they were just about to get it on, when he suddenly felt the urge to beat his high score on *Tetris*.

Although Nintendo argued that the look on her face was one of frustration at being ignored, the complainants felt her expression was more one of fear, and that the woman was being 'subjugated and humiliated against her will.' Nintendo responded by insisting the ad was in keeping with the editorial tone of the magazines it appeared in – *FHM*, *Loaded* and *Viz* – and that it would be understood as humorous by the respective readers. However, Chris Reed of the ASA told **Edge**: 'Advertisers have to be aware that the audiences they are trying to target aren't the only people who will see the advert. If other people do see it and it's going to cause offence, then that's one of the criteria for us looking into it.'

This is not the only videogame ad to be recently investigated by the ASA. According to Reed, Virgin's distinctive 'bath full of blood' magazine campaign for *Resident Evil* (see Out There, **E**41) actually drew more complaints than any other advertisement last year and was inevitably banned. Sony Computer Entertainment has also been in trouble. Its magazine advert for *Tekken 2* featured a tattooed boy surrounded by graffiti 'designed to resemble insane ravings written in blood.' The picture was felt to be masochistic and unsuitable for children, although Sony did argue – rather speciously, it has to be said – that the advertisement was crucial for consumers to understand the plot of the game. Plot? *Tekken 2*? Sony will be in trouble with Trade Descriptions boys next...

Gladiator becomes dinosaur hunter

To promote its excellent N64 shoot 'em up in the UK, Acclaim hired Gladiator Hunter to be the face of *Turok: Dinosaur Hunter*. The beefy TV star, here posing in an especially realistic-looking tree for no discernable reason whatsoever, was perhaps felt to have the physique necessary to fight dinosaurs.

The publicity scam paid off at first: in the week of its release, *Turok* scorched into the ChartTrack all-formats chart at number two. Unfortunately it dropped to number ten a week later, proving the gaming public is as fickle as ex-weathergirls when it comes to Hunter.



- THIS MONTH...
- TOKYO TOY SHOW
- COMIC CAFES
- CAPCOM CAPERS

EDGE PAYS A VISIT TO THE TOKYO TOY SHOW AND FINDS BANDAI'S TAMAGOCHI ARTIFICIAL LIFE KEY-CHAIN NOVELTIES CONTINUING TO GO DOWN A STORM. MEANWHILE, COMIC CAFÉS PROVE A HIT AND CAPCOM UNVEILS AN UNUSUAL NEW FIGHTER...

The (Tokyo Toy) Show must go on

Though videogame developers have abandoned the Tokyo Toy Show en masse (in favour of the Tokyo Game Show – see page 8), this year's event attracted thousands of eager punters and over 100 toy manufacturers. The biggest crowd-puller was, predictably enough, Bandai's new range of Tamagochi products. Last year the original handheld Tamagochi game (in which players had to rear a small and cute on-screen creature) caused a full-scale artificial-life-product frenzy, selling out almost instantly.

This year's show saw the introduction of three variations on the theme. In 'Paradise', the player looks after an angel, in 'Sea' it's a whale, while 'Forest' features a Japanese insect. To milk the concept even further, Bandai introduced a range of Tamagochi accessories (including a Tamagochi mobile phone) and a completely new version of the game, 'Digital Monsters', in which players care for and feed their on-screen monster before connecting to another player's unit and trying to kill the creature lovingly reared by their friend. It was, perhaps, only a matter of time before violence crept in...

Away from key-chain games, Bandai also introduced the latest game incarnation of *Dragon Ball*, which will be appearing on the PlayStation, despite the company's imminent merger with Sega. Sega, meanwhile, presented a digital camera and a range of *Evangelion* dolls. Unfortunately, the company neglected to produce a selection of *Virtua Cop* cuddly terrorists or *House of the Dead* plastic zombie play figures. Maybe next year...

Meanwhile, CESA, organiser of the Tokyo Game Show, held its 1996 videogame awards at the event. Out of 337 nominations, the best game award went to *Sakura Taisen* (an anime-style Saturn RPG). There were also dozens of individual category winners including *Super Mario 64* (best action title), *Tekken 2* (best beat 'em up), *Virtua Cop 2* (best shooter) and *Mario Kart 64* (best racer). *NiGHTS* won two awards (best programming, best scenario) as did Sony's utterly bizarre concept title, *Parappa the Rappa* (best new concept, best sound).

Why stay in and read comics, when you can go out... and read comics

Last year it was Internet cafés, but now a new type of themed drinking and eating enterprise is gaining popularity in Tokyo – the comic café. The first of these opened up at the end of '96 in Shibuya and Ikebukuro – two areas popular with hip young adults. For around ¥600, customers can sit for an hour and a half and read anything from the café's comic library. In Japan, where manga culture is almost a way of life, comics cover everything from cooking to golf to sex and violence, so the cafés have a wide appeal. In fact, to answer the increasing demand (the café in Ikebukuro attracts 300 visitors a day and has a library of 20,000 titles), many are opening 24 hours a day. So, then, insomniac manga fans can pop out at 4am and start reading instead of aimlessly tossing in bed.

Marvel Superheroes beat up schoolkid

Capcom's *X-Men vs Street Fighter* sequel, *Marvel Super Heroes vs Street Fighter* (see page 26), is due to appear in Japanese arcades in June. The game should employ the CPSII arcade board, and will feature 'Super Arts' moves as previously seen in Street Fighter III.

The Japanese version will also feature an unusual character – Norimaro – who, rather than boasting rippling muscles and deadly moves, is a caricature of the Japanese high-school student: timid, uniformed and bespectacled. The story behind this is fascinating. Several months ago Japanese TV company Nihom Telebi visited Capcom to take a look at the making of *SFIII*. While there, the comical TV presenter asked the game producer whether he could design a character for the game. Surprisingly, the answer was yes.

As well as looking odd, Norimaro has a range of humorous special moves including taking photos, throwing books, and, most bizarrely, asking for his homework book to be signed. Plus, the character makes various quips in the voice of the TV presenter. Perhaps an alternative could be found for British gamers. *Street Fighter vs Jeremy Paxman*, anyone?









The Tokyo Toy Show saw Bandai's presence loom large, with Tamagochi (above right) and *Dragon Ball* (right) stands





While the west is still upbeat on the idea of Internet cafés, the Japanese are getting into comic cafés. Their popularity has grown to the point where they're open around the clock







Bandai introduced three new Tomagochis (above) at the TTS, plus novel multiplayer versions (right)

.net income

Multiplayer games are undeniably addictive, and as more people discover the huge difference between defeating a mere computer-controlled opponent and blowing away a human player, the pastime is sure to build a massive following. But what is the true cost involved in online gaming? Edge takes a look at the evidence...

With the popularity of multiplayer games increasing at a steady rate, companies have not been slow to recognise the commercial potential. In excess of 40 companies now offer multiplayer gaming over the Internet in one form or another, their wares ranging from battleships and card games to RPGs and, of course, everyone's favourite, *Quake*. Before getting online and grabbing a piece of the action, however, it is worth taking a closer look at the cost of online gaming, and how to keep those costs down.

The simplest solution is to link two machines via a null-modem cable. This will give fast response times and obviously no hourly charges, but allows for only two players – and there is a limit to the length of a serial cable, so transatlantic gaming is out of the question. A Local Area Network accommodates multiple machines and is ideal for online gaming, giving rapid response times and being relatively easy to set up. However, the extensive hardware necessary doesn't come cheap, so few people will have this option. Offices are perfect environments, but expect the wrath of your administrator as the network grinds to a halt.)

The most interesting option is to play over the Internet where thousands of gamers regularly battle it out on games such as *Quake*, *Diablo* and *Red Alert*. An IBM-compatible PC is recommended and a P120, 16MB, one-gig hard disk, and a modem capable of 33.6Kbps will suffice, costing around £800. Also needed is an ISP offering good connectivity, as most game servers on the Internet seem to be based on the west coast of California. Once online, there are a number of alternative ways of playing multiplayer Internet games. At the top of the price scale are subscriber-only services such as Dwango, Ten and Engage – each one offering slightly different services including match making, chat channels for gloating and realtime communication between competitors during gaming.

Unfortunately, because of the way each company's pricing systems vary, it is almost impossible to calculate which offers best value for money. The methods of charging range from $15/month for TEN to $34 for 20hrs on Dwango, whereas recently launched service Engage has an hourly charge of $1.95 per hour with ads, or $2.50 an hour without. Another new service, indicating an emerging trend in advertising-supported gaming, is Mplayer from Mpath Interactive Inc. This company offers free multiplayer gaming paid for by advertising and claims to provide fast-action and reliable connections which give superior gameplay over public servers that support software such as Kali. For a one-off registration fee of $20, Kali allows users to connect to multiplayer gaming servers run by enthusiasts around the world. Until now, this has been the most cost-effective way of getting into online multiplayer gaming and, as opposed to the subscriptions services which vary in the games they offer, Kali supports any game that uses the IPX/SPX protocol. However, there can be problems with slow connections as, once again, most servers reside on the other side of the Atlantic and are often crowded.

At present, then, playing multiplayer games online is a costly pastime. In addition to any of the aforementioned charges there is the cost of buying the games themselves (shareware versions rarely offer multiplayer options, although *Quake* is one exception, having its own built-in software that performs a similar function to Kali), an Internet subscription at around £10 per month, the cost of the phone call (a pound an hour off-peak with BT's discounts) and the cost of downloading the necessary software (often in excess of 6Mb) to try out a service. Gamers on a leaner budget may wish to wait until more services such as Mplayer exist and British Telecom finally catches up with the rest of the world and offers free local calls.

Expensive though it may be, however, there is no doubt that Internet gaming will be a huge industry. Already thousands of gamers are online and, in ten years' time, perhaps TV addicts will sit down on a Saturday evening to watch the world's best gamers play *Quake* instead of watching muscle-bound buffoons lumbering about on 'Gladiators'. E



Multiplayer games like *Diablo* (above) are making the Internet popular with gamers who like to fight their friends instead of their computer. Naturally, online game providers are rubbing their hands together at the prospect of such potential income

More info

Watch your wallet
At an average of three hours play a day, a year's online gaming could easily cost you over £2,000

E-Online offers free gaming
Internet gaming company Entertainment Online has opened a new free access 'Beta Zone'. Here players can test out games being developed to appear on the site, and then send their comments and ideas to the programmers. Anyone interested in participating can register by visiting the website at **www.e-on.com**

Infogrames logs on
The Infogrames group is now accepting beta testers for its forthcoming online gaming service. Through its subsidiary venture, Infogrames Online, the company will offer 15 previously unreleased multiplayer games as well as tournaments, prizes, game news and chat pages. Potential testers should check out the website at **www.oceanline.com**

Hyperlink

Mplayer
www.mplayer.com
Ten
www.ten.net
Engage
www.engagegames.com
Kali
www.kali.net
BT
www.bt.co.uk
Dwango
www.dwango.com

battle.net



Services like Blizzard's battle.net and MPath's MPlayer offer a cheap online gaming solution

Hisao Oguchi

Photography: **Hiroki Izumi**

general manager, AM3

Hisao Oguchi joined Sega in 1984. Having produced landmark games such as *Heavyweight Champ* and *Super Monaco GP* he has since spent the past four years within AM3 overseeing the creation of games such as *Sega Rally*, *Gunblade NY*, *Manx TT*, *Virtual On*, *Last Bronx* and, most recently, *Top Skater*. **Edge** met with Oguchi-san recently at the company's Tokyo HQ and quizzed him over working for Sega and the future of the division.

Edge: What made you choose Sega as a place of employment over, say, Nintendo or any other videogame company?

Hisao Oguchi: After studying engineering I initially applied to both Namco and Sega. However, I was taken on immediately by Sega so I didn't think about other companies any more. As for Nintendo, well, they're based in Kyoto so I didn't actually make it all the way down there... [laughs].

Edge: Why did you choose the videogame industry?

HO: I wanted to work in the entertainment field and I used to build my own games and toys at home with whatever I could lay my hands on.

Edge: So you were a game otaku, then?

HO: No [laughs], I was not an otaku. But when I was a child I used to go to game centers located on the upper floors of department stores and I loved games very much. I knew the Sega brand even when I was very young – I was always in awe of the company's games. In fact, when I initially entered Sega I was disappointed when I discovered how it small was. However, it started to grow-up soon after.

Edge: So you initially started with AM1?

HO: Well, when I entered Sega some 14 years ago there was only one development department producing arcade and consumer games. The first project I worked on was the SG3000 [Master System].

I did the project planning for it. My first proper game was *Doki Doki Penguin*... yes, a penguin game.

Edge: And after that?

HO: After I did some medal [token] games – I was the director on a huge derby game called *Super Derby*. After that I went to the videogame section and did *Super Monaco GP*, *Rad Rally* and *Heavyweight Champ*. I stayed in AM1 for a while and then went to AM3.

Edge: Apart from Sega's own software, what sort of games do you like?

HO: I like games like *Persona* [a popular Japanese PlayStation RPG from Atlus] and *Final Fantasy VII*. I also love old Namco games like *Xevious* and *Galaxian*. When I saw *Xevious* for the first time I was very impressed because previously backgrounds in games



'I try to avoid passing comments on early projects: I let them develop freely. In this respect a project is like an egg – I don't say anything until it begins to hatch'

had been black and this was one of the first to introduce full colour. Even with its simple green landscapes it seemed great at the time.

Edge: Is it difficult managing your staff's passion for gaming while trying to keep to rigid deadlines?

HO: If a creator doesn't play games he cannot understand what's enjoyable. So there is time for playing and time for working. But we cannot spend all our time playing, of course [laughs]...

Edge: What do you do to cultivate creativity among your staff?

HO: When making a game I sometimes come up with the initial ideas but most of the time several people propose them. I try to avoid passing comments on early projects and instead let them develop freely and progressively. Of course, there are some cost constraints and at a certain time I need to be able to make a decision and say 'stop' if it is necessary. In this respect a project is like an egg – I don't say anything until it is hatching because until that point the ideas are coming from everybody and all these ideas gradually form into a project. That is the AM3 way and our strongest asset. I don't believe in strong directors. Instead I give recommendations to the staff and I don't order them to do everything in my way.

Edge: Is it the same in other AM departments?

HO: I couldn't possibly say [laughs]. AM3 is more like a university laboratory than most companies.

Edge: How do you see AM3 in, say, ten years' time?

HO: Ten years on is a bit too far away for me to think about. I really can't imagine what we will be doing but I do have this vision of games becoming a means of communication. Of course, you can play a game on your own, but I want to make games that facilitate greater communicate between humans. When I go to take a look at location tests in game centers I find it interesting to watch the communication between fathers and sons and between boyfriends and girlfriends, etc. Despite the fact that *Top Skater* is a oneplayer game, the player communicates with his audience. You do not play alone against the computer – everybody watching enjoys the game, too.

Edge: What would you say is AM3's strength? Does it really have one given that it's covered nearly all the arcade genres?

HO: AM3 does not have any specialist genre, in fact. We want to do whatever looks interesting. This is our first goal. Then we want to make games that look substantially different from console games. Essentially we want to make games like *Top Skater*, games that can be released only in game centers.

Edge: What do you think you have specifically achieved with *Top Skater*?

HO: Basically, for other arcade games, the main objective is to trounce your opponent and win. For *Top Skater* the main objective is to pull off cool stunts during the race. In my opinion, this is the most important difference. You have to race trying to be as cool as possible. Furthermore, the player has to interact with the other people watching the game. It is very positive for a player to have good feedback from his 'audience' after completing a cool race; it's very gratifying. For the player, it is like going on stage. He has to impress the audience and almost establish a kind of rapport with them. I believe only *Top Skater* can offer all this.

Edge: It sounds like *Top Skater* hasn't really been developed with the Japanese market in mind, then.

HO: Correct. I believe the game fits better with US tastes. I went to a show in Last Vegas a few days ago, and the Americans immediately understood how to enjoy the game. Japanese are sometimes more individualistic about enjoying a game... It seems that Americans will enjoy the game much more than the Japanese. I also think that the game fits in very well with the blue Californian sky [laughs].

Edge: And no doubt some extensive research was undertaken in California...

HO: Rollerblading and skateboarding are hugely popular in the US so, yes, it was the best place to carry out research. But in fact we did most of the research in Japan, attending skateboarding championships. We also analysed a lot on videos for inspiration and even looked at snowboarding techniques, too.

Edge: So what plans do you have after *Top Skater*?

HO: We have some projects under construction. As I said, the key word at AM3 is communication. I can give you some clues as to what our next game is about: I can say dinosaur and communication. It will be a twoplayer game where players will cooperate. I want to make games that will change the atmosphere in arcades.

Edge: How does Model 3 figure in AM3 future development plans as a whole?

HO: We are going to work with the Model 3 board but the cost is not really a problem. As it becomes a more established technology, the price will come down. Model 2 was also expensive at the beginning, and became cheaper fairly quickly. It should be the same with Model 3.

Edge: Are you abandoning the Model 2 board, then?

HO: No, we are going to continue to use it and also some cheaper boards such as the ST-V.

Edge: Imagine you had no technological limits – what game would you like to make?

HO: Presently most of the games are based on digital controls. I want to create more analogue games. A game where the result of a player's actions is not necessarily 'right' or 'wrong'. The feeling and the enjoyment needs to be more varied so that the player can experiment and discover lots of things by trial and error. With high-end technology there are less limits placed on the gameplay – analogue control is an area I'd want to invest heavily in. ■





AM3's wildly varied CV includes coin-ops such as *Gunblade NY* (top) and *Manx TT*



An Audience with John Romero

He designed *Doom*, the biggest-selling PC game of all time. He started id Software. He designed *Quake*. Without him, PC gamers might well be still playing flight sims. Now, he's got a new company, new ideas and is ready to take on the world once again...

Photography: Jude



PC game start-ups generally don't get much attention before they release their first title. Ion Storm is an exception. Headed up by **John Romero**, co-founder of Id and co-designer of *Doom*, *Doom II* and *Quake*, he's teamed up again with Tom Hall, another id alumnus.

In an age in which widespread 3D acceleration and ever-increasing processing power has turned much of PC gaming into mere technology demonstrations, Ion Storm plans to put emphasis on gameplay once again. The ink is still wet on a lucrative three-game deal with *Tomb Raider* publisher, Eidos, and the future looks bright indeed. Edge cornered Romero in his new offices in Texas to get the scoop on the past, the present and his plans for Ion Storm…

Edge: So, where did it all start for John Romero?

John Romero: I got into game design by programming first, after playing videogames for years and years. I got an Apple II back in 1980. I made clones of games that were out there already, like *Pac-Man* and *Defender* and *Asteroids*, but we didn't sell any. I got my first job in the industry in 1987 at Origin Systems in New Hampshire, working on the port of the Apple II version of *2400AD* to the C64. That was all on my own – they'd only just started creating project teams then. I remember that there were about four guys in another room porting the Apple version of *Ultima V* over to the PC.

Edge: Do you miss those early days?

JR: I don't really miss 'em. They were fun, they were great days, but I'm having a lot of fun now, too. I never really thought about how successful I might become, all I cared about was making the games. Success or no, I just wanted to do it.

Edge: How did you first meet the id guys?

JR: We were all at Softdisk in 1989 when I met Tom Hall. I came to Softdisk because Jay [Wilbur, who would go on to become id's previous business development manager] was going there. I'd known Jay since 1986 – he was the editor of an Apple II magazine that I was submitting my programs to. I found out that he was going down, and I wanted to go with him. For about a year I was working on lots of stuff, but it wasn't very 'gamesy', and I told them that I was going to leave if they didn't give me a game to work on. So they offered me a new project and I told them I needed another programmer, and they got John [Carmack, who would go on to become creator of the *Doom* and *Quake* graphics engines]. We were in our early twenties then.

Edge: Apogee released id's earliest shareware ventures. What was the first title you worked on with them?

JR: Well, we taught the guys there how to program properly, so they could do a fast platformer. A guy was working on a game called *Dark Ages*, back when we were still working at Softdisk, and he was drawing the graphics to the screen real slow – very inefficiently. We taught him how to do some tricks in EGA and the game turned out a lot faster, and that's why the early *Duke* games were so fast. We did our first *Commander Keen* series when we still working at Softdisk and then we released it as shareware on December 14, 1990. One month later we got our first royalty check and said, 'Well, we don't need to work here any more.'

We officially started id on February 1, 1991, and did the second *Keen* series, and then started working on *Wolfenstein*.

Edge: Where did the idea for Wolfenstein come from?

JR: We did a game called *Catacombs 3D*, which is on the *id Anthology* now. It was an EGA texture-mapped 3D game, and we wanted to do a faster one to take advantage of VGA. We were going to make a game in which you broke into a research complex with all these mutants running around. It was going to be called *It's Green and Pissed*. But that just seemed too trite and hackneyed, and I'd always loved that old *Castle Wolfenstein* game on the Apple II, and so I said, 'Hey, we could do it in 3D.' There's never been a game like it, really – I mean, you're shooting Nazis – it's pretty unique. The game that changed all the rules.

'I don't miss the early days. They were fun, they were great days, but I'm having a lot of fun now, too. I never really thought about the success, all I cared about was making games'



Ion Storm's offices occupy a skyscraper in Dallas, Texas. Great air conditioning

Edge: *Wolfenstein 3D*, of course, led to *Doom*, which changed PC gaming forever. How much of a leap was it over your previous efforts?

JR: It wasn't, really. It was set in a different world, and the important thing was to make sure it was original in concept and setting, compared to what was already out there. We wanted to create an environment that would let us to create some really cool monsters, and that's how we came up with the idea.

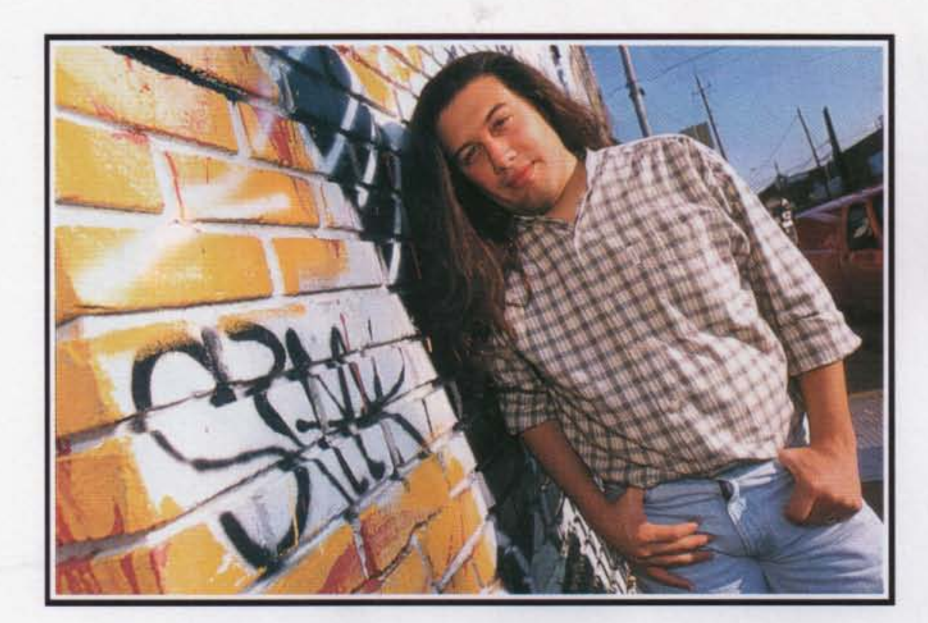
Edge: Were you surprised at how successful it became?

JR: Not at all. We totally knew it was going to be huge before it even came out, especially when we were planning on doing the network game. I remember saying, 'This is going to be the biggest game in the history of the planet Earth.' I mean, those firefights, happening at that speed in 3D. I was just picturing how much fun I was going to have playing it. We knew it was going to be huge, we just knew.

Edge: So who did what on the *Doom* team? Did Carmack design the engine, and you the levels?

JR: At the beginning, Tom Hall designed most of *Doom* and I was doing maps and a bit of programming. Halfway through we started to cut the design down to something that wasn't as complex as what Tom had created. He got kind of unhappy with that and left to go to Apogee. We continued







and finished the game later in 1993.

Edge: *Doom II* wasn't much different from the original. Did you design much of that?

JR: Well, Sandy Petersen designed most of the levels for *Doom II*, and then I designed a big bunch which took eight months. Then with *Quake*, I did about a quarter of the levels and the original design.

Edge: *Quake* changed in concept quite a bit during development. Was your original design largely ignored? The oneplayer experience seemed a little weak…

JR: Not ignored, but the finished game was way off the mark. I had a great idea for how the game should go, and the engine wasn't finished for a long time and there was no 'proof of concept programming' to see if the hammer idea would work right. My original idea was to do something like *Virtua Fighter* in a 3D world, with full-contact fighting, but you'd also be able to run through a world, and do the same stuff you do in *Quake*, only when you got into these melees, the camera would pull out into a third-person perspective. It would've been great, but nobody else had faith in trying it. The project was taking too long, and everybody just wanted to fall back on the safe thing – the formula. I wasn't going to go against everybody else in the company, so once I finished work on *Quake* I was done. I left the company.

Edge: Was that the only reason why you left id?

JR: No, there were a whole bunch of reasons, but mostly it was creative differences. I wanted to do different games and take the action genre forward. I think that id wasted its potential with this awesome technology. It only developed one title at a time. Id could've done a lot of great stuff with that engine. I want to make a lot of really great games and not just one at a time, and not waste potential like that. The other guys at id just wanted to stay small and concentrate on being small. I want to create games that require a lot of people to create.

Edge: How happy were you with *Quake*?

JR: It was a great game, don't get me wrong. I loved *Quake*, it was totally fun. It could have been a lot better, but that's fine, because usually the first generation of a product from id is pretty bare – it's just there to show and test the technology, and the second version usually has a lot more depth to it. *Quake*'s single-player experience isn't that great, though, because what they give you isn't intriguing enough to keep you going. In the first episode, you see pretty much all the monsters, except maybe four, and you see all the weapons, just about, and all the artefacts, so when you get to the second, third, and fourth episodes, all you're seeing are new levels, and that's just not enough. It was enough for *Doom*, back in those days, but nowadays you need a lot more content to keep people going through your stuff and that's what my new games are all about.

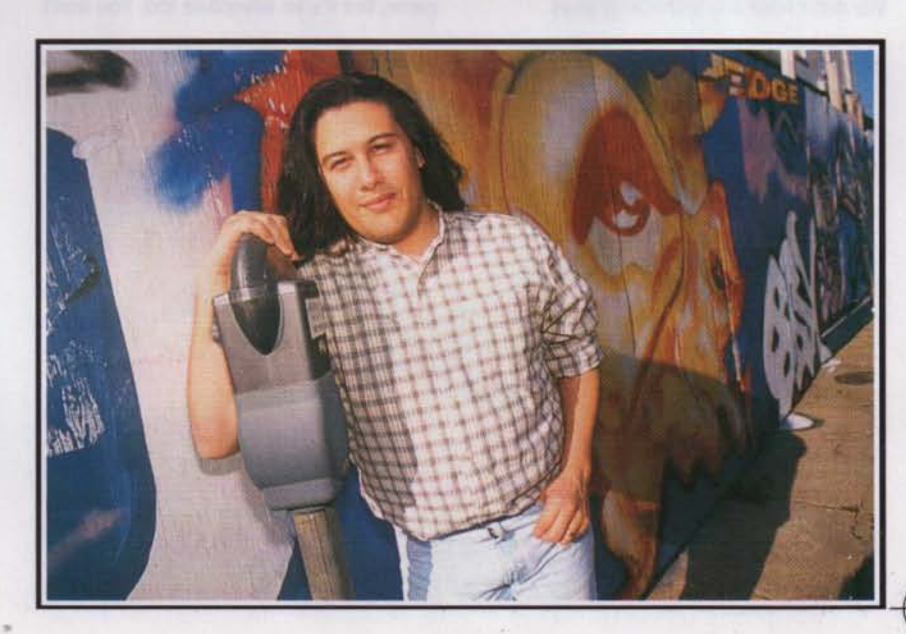
Edge: On a personal level, was it hard to leave Id, this company that you'd helped to create with so many friends?

JR: It was hard, but I had been talking about leaving for about eight months with Tom Hall. We were close, and we had a lot of fun. He's hugely creative. Back at id, I was kind of alone, because Tom was at 3D Realms. He used to come up with some great design ideas, and I really missed that. I want to have fun. The money and everything is great, but it's more important for me to be doing what I think is great instead of just pumping out the same formula.

Edge: You new company is Ion Storm. How did you come up with the name?

JR: Tom came up with the name Ion ▶

'My original idea for *Quake* was to do something like *Virtua Fighter*, with full-contact fighting, but you'd also be able to run through a 3D world'



◀ Storm because we wanted something really tight and small and cool and kind of scientific. He came up with a bunch of words and 'ion' was the one that really stood out and 'storm' came from an e-mail in which I was talking about [Ion designer] Todd Porter's game, which is like a realtime strategy game, much like Blizzard's games.

Edge: Eidos will be publishing your first three titles. How did you get together?

JR: At the very beginning, before I did any deals with anyone, my whole thing was, 'Look ,I'm doing the games I want to do and nobody's going to tell me what to do with them.' Everybody got that same line when I was going to all the companies. We had no design docs; we just went out and flew around for months telling the companies, 'This is what were going to do and we're looking for a publisher. We have lots of experience and good track records. Are you interested or not?' There you go.

Edge: There was speculation that you would go with GT Interactive. Was this ever a possibility?

JR: GT? Why would we go with those guys? I wouldn't go with GT because it's kind of a 'bad for the industry'-type company because they just went in with this complete business plan of buying up companies, inflating the stock price, taking a big pay-off, and, you know... It's just a big money deal to them – it's not because they care about games, and I don't want to be associated with a company that doesn't care about games or quality.

Edge: It must be an exciting time.

John: Oh yeah, I'm really excited, because I have three games in development at the same time at Ion Storm. Having three game designers each designing an individual game is a pretty big deal, I think. We don't have any technology guys



in-house – it's all about designing the games, and we'll license in whatever technology we need to get the games done. I mean, look at *Tetris* – *Tetris* has horrible technology, but the game design is amazing, and that's what made it work.

Edge: So who are the other two game designers at Ion?

'We have a game called *Anachronox*, which is a 3D RPG, much like a Japanese console title. We have a real "Square" philosophy for design'

JR: Tom Hall and Todd Porter.

Edge: Where did Todd come from?

JR: Todd came here from Seventh Level. He's been in the industry for 18 years, he was an insider guy at Origin for years and years – he really knows his stuff.

Edge: So what's his game going to be?

JR: His is cool. It's a realtime strategy game, but it's an adventure too. You don't just command units to destroy each other. The way you get through this cool adventure is by commanding things. It's interesting.

Edge: Does it have a title yet?

JR: I don't know whether I can say the name of Todd's game because he just came up with a new name and we haven't trademarked it yet.

Edge: Both of your other two games are using the *Quake* engine, but not this one, so what technology is it based on?

JR: It uses a really cool voxel technology for all the characters and stuff. That's all I should say about it right now.

Edge: Okay, so what's Tom Porter's game all about?

JR: It's called *Anachronox*. It's a 3D RPG, much like a Japanese console title – like *Chrono Trigger* or *Final Fantasy* – in the way that you control it; go through the game, fight, and see the characters. You don't see this on the PC anywhere – and usually you have too much of a big world to wander around in not knowing what to do, like in *Daggerfall*. Japanese console games, on the other hand, are completely story-oriented and the players are guided through. We really have a 'Square' philosophy for the design.

Edge: You've stuck to the PC so far, but would you like to do a console game?

JR: Yeah. I think we're eventually going to do something like that because I like the idea of designing to those strict limits that you have with a console, particularly the N64. It would be something different, something really interesting to do, I think.

Edge: *Anachronox* is PC, though, with console-RPG influences. In what ways will it be different from a console game?

JR: Obviously it will have much more



depth because console cartridges only hold so much and Tom's game design is massive.

Edge: And it's using the *Quake* engine?

JR: All the game's 3D uses *Quake* technology so you're going to be playing a game like *Chrono Trigger* with the *Quake* technology, which should be pretty awesome.

Edge: And so, to your own game…

JR: It's called *DaiKatana*. My whole deal with this game is about taking my favourite game genre – which is the 3D action, first-person genre – and take it to where I really think these games need to move.

Edge: What kind of world is it set in?

JR: It's set in 2455AD with lots of robotic creatures. The player's character is Hiro Miyamoto.

Edge: Named after Shigeru Miyamoto, by any chance?

JR: I'm a huge fan of Shigeru Miyamoto, and I love *Mario 64*. Anyway, you're going to be adventuring with Mikiko Ibihara who's a Japanese acrobat and scientist, and this big black dude named Superfly Johnson. It's like playing a cooperative multiplayer game, but the computer controls the other two and the entire time you're playing the game the other characters are talking the entire time about what's going on.

Edge: Via on-screen text or actual speech?

JR: It's like real life – you hear 'em. For the first time you're going to hear speech continuously through a game – an action game – through four different time periods. You start in 2455AD, then 2030BC in the Greek Mythological time period, then 560AD in Norway during the Dark Ages. The fourth period is 2030AD in San Francisco.

Edge: You're not exactly known for complex plots, are you?

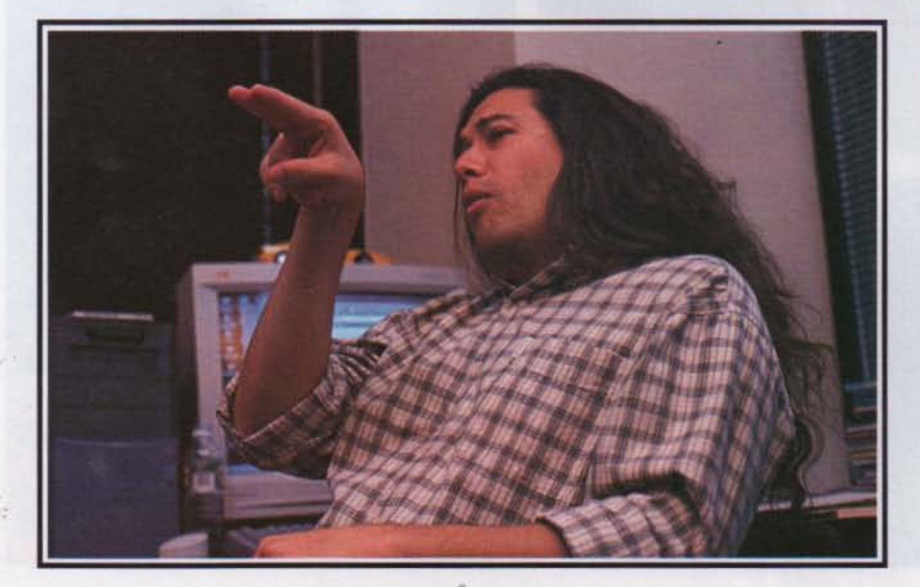


JR: I guess not, no, but this game's a departure. It's pretty complex – it's kind of a time-travel paradox type problem. Basically, you need to go back in time from 2455AD to 2030AD to kill this scientist who's going to change time for his own evil advantage. This one scientist found the DaiKatana and figured out how it had a time-travelling potential in it. A bad scientist who was working with this good scientist was sick of being in his shadow and didn't think that he was going to put the sword to good use, so he decided to kill him and go back in time himself to change the good scientist's ancestors' fortune. You'll have to read the story, but it's really interesting.

'I believe that getting an emotional reaction from players pays off big if you can get them to feel fear, sadness, or happiness. Any game that doesn't evoke emotions will not work'

Edge: It sounds like a good opportunity to rectify the 'lack of variety' gripes that are levelled at *Quake*…

JR: Oh, yeah, they all have completely different graphics. There are none shared between the time periods except for some of the artefacts you pick up that are universal. There are 26 weapons – every time period has its entire complete set of weapons. There are completely new monsters for each episode – 16 monsters in each, and each is made up 500 polygons. Quake only had ten monsters for the entire game, and each had only 150 polys.



Edge: By using the *Quake* engine, are you at all worried that you'll be criticised for what appears to be sticking to your established game genre?

JR: I don't like reading game magazines when reviews of a clone comes out and the magazine says, 'Oh no, another shooter,' like they dread it. My favourite style of game is being dissed by these high-minded reviewers. I believe that getting an emotional reaction from players pays off big if you can get them to feel fear, sadness, or happiness. Any game that doesn't evoke an emotional reaction is not going to work and won't sell. If, however, you can build a game that can do more than one emotion you're really going to win big. This is the stuff we did at id, and this is what I want to do again.

Prescreen Alphas

Index

As *Dungeon Keeper*'s epic development cycle draws to a close, Bullfrog will be looking for its first hit, sans Peter. ***Populous 3*** looks set to be just that. Though based heavily on the now eponymous god concept pioneered in the original *Populous*, Molyneux's input has been limited, the task falling instead to project manager/programmer Alan Wright, and artist, Paul McLaughlin. The realtime rotatable/scaleable environment marks a huge departure for the series, and although the effects already look impressive (the landscape builds, warps and deforms in realtime), Bullfrog promises full 3D card support to add transparencies, reflections and filtered textures to the proceedings.



The potential is awe-inspiring. Players will have an entire planet under their control, with the ability to zoom in and out of the globe, seeing as much or as little of the maps as they wish, able to create mountains, lakes, seas, storms and cities on a whim. The rival gods from the previous games will also play their part, inflicting plagues, famines and wars upon the player's unfortunate subjects. The realtime 3D should give the planet a 'living' feel that the game's turn-based ancestors could never hope to match. Bullfrog is continuing its commitment to Sony's console with a PlayStation release set for the end of November. As expected, PC owners will see *Populous 3* first, if all goes according to plan, on September 19.

Innovative and slightly unusual are two terms rarely applied to PlayStation titles nowadays, but they seem to fit Psygnosis's forthcoming high-seas caper reasonably well. In ***Overboard***, due for a November release, the player takes control of a pirate galleon which must negotiate enemy ships, sea monsters and various tricks and traps to reach the gold at the end of each level. Naturally, there are a number of weapons and power-ups available as well as one or two secret features. Not only does the gameplay look great, but the levels are beautifully designed with

Bullfrog's *Populous 3* combines the complex gameplay concepts of the original with state-of-the-art scaleable 3D environments that grow, deplete, deform and metamorphose in realtime. The network option will undoubtedly create the most realistic world yet seen in a videogame











Psybadek (3Dfx shot) is Psygnosis' latest project for the PC and PlayStation and takes place over a variety of terrains, from jungle to 'Underworld'



cutesy, well-designed boats and varied locations.

Psygnosis claims that there will be no *Wipeout 3*, and although it's not yet known what that team is currently involved with, another in-house group has emerged with the unusually titled ***Psybadek*** (full title: *Psybadek Featuring Xako and Mia*), a 3D platform game for the PlayStation and PC. Players can take control of either Xako or Mia, flying around on a 'hoverdek' (a floating skateboard) in order to rescue the opposite character and their group of friends. The action takes place over 50 levels spread across five different environments, including mountains, jungle, desert, 'Technopolis' and 'Underworld'. The game is due for a November release and **Edge** will examine *Psybadek* in more detail next month.

Sega's Team Andromeda, previously responsible for the visually stunning *Panzer Dragoon* titles, is embracing the world of true 3D with its surprise project, ***Azel Panzer Dragoon RPG***. As the title suggests, the on-rails shoot 'em up has been replaced with a third-person perspective reminiscent of *Shining the Holy Ark*. The characters are poly models, however, instead of sprites, and though Sega of Japan remains tight-lipped about the ▶







Forthcoming PC 3D action game *Chasm*, from Megamedia, isn't exactly afraid to show its influences





Cryo will surprise many with its latest 3D title, *Riverworld* (above). It combines detailed 3D maps with a refined strategy engine to create an unusual hybrid. *Ubik* (bottom), a sci-fi adventure featuring prerendered backdrops and polygon characters, is also on its way.

















Psygnosis' *Overboard* (above) is a high-seas PlayStation/PC game that puts the player in charge of a pirate ship that must contend with all manner of tricks, traps and puzzles in order to reach the gold at the end of each level

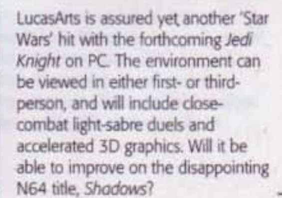












LucasArts is assured yet another 'Star Wars' hit with the forthcoming *Jedi Knight* on PC. The environment can be viewed in either first- or third-person, and will include close-combat light-sabre duels and accelerated 3D graphics. Will it be able to improve on the disappointing N64 title, *Shadows*?



Front Mission 2, a strategy title from Square Soft, is in early development









Rockman X4 is on its way to the PlayStation courtesy of Capcom. The version at the Tokyo Game Show revealed some gorgeous visuals

Capcom's latest beat 'em up, *X-Men vs Marvel Superheroes*, features all the traditional characters, plus some that are distinctly untraditional









◀ precise contents, these shots suggest that the gameplay will consist of RPG levels linked by more traditional *Panzer Dragoon* dragon riding, with full freedom of movement. The Saturn's release list is dominated by shoot 'em ups and driving games, particularly in the west, and the introduction of what looks to be an extremely promising adventure should provide some badly needed variety for the console's faithful owners. No release date has been set.

Azel had better not be too far off. It could be beaten by GameArts' ***Grandia***, a more traditional, but still 3D, RPG due out in Japan for the summer. Though not as complex as Square's *Final Fantasy VII*, the game will still offer ten different towns to explore, each with its own unique inhabitants and cultural influences. The only disappointing feature is the use of sprites instead of polygons for the characters, but that's more than made up for with the detailed and colourful artwork, which paints a typically Japanese picture of *Grandia*'s detailed fantasy world.

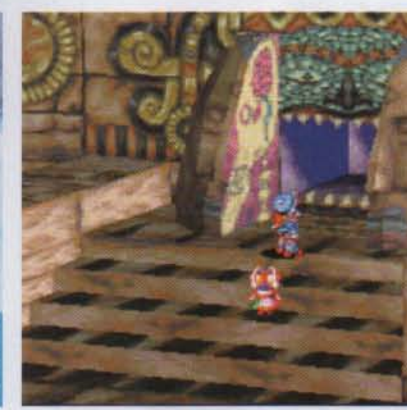
The N64 received a boost at the Tokyo Game Show, courtesy of Imagineer's ***Multi-Racing Championship***, now edging closer to completion. The game is characterised by crisp, smooth graphics, and some innovative gameplay features such as forking roads for different routes and a console link-up facility. The link uses







Sega has added a new twist to the *Panzer Dragoon* series with *Azel Panzer Dragoon RPG*, which combines full-freedom flying sections with more traditional Japanese RPG elements, and it's all in realtime 3D, with no rails









Grandia, an RPG for the Saturn, may use sprites rather than polys, but it more than makes up for it with incredibly colourful and imaginative cartoon-style 3D graphics and an involved plot that revolves around no less than ten isolated towns, each with their own distinctive cultures and inhabitants

Seta's *Rev Limit* is almost complete and looking good, but not as good, apparently, as Imagineer's long-awaited *Multi Racing Championship*

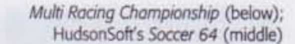








Ultra Battle Royale will no doubt be one of the first 3D beat 'em ups to arrive on the N64, but it's unlikely to pose a threat to *Tekken 2*...



Multi Racing Championship (below); HudsonSoft's *Soccer 64* (middle)





the cable previously employed for the N64's Shogi title, and plugs into carts. All the reports suggest that *Multi Racing Championship* is already superior to Seta's ***Rev Limit*** (also on display at the TGS), though with neither ready for release, there's still time for both companies to make last-minute adjustments in time for E3 in Atlanta this June.

Sega's Saturn conversion of coin-op ***Last Bronx*** is also looking impressive, despite being only 30% complete. Unveiled at the Tokyo Game Show, just four characters (out of a possible eight) were selectable. For those not familiar with the AM3 beat 'em up, it differentiates itself from the *Virtua Fighter* games with larger arenas and a variety of weapons. Each character will have their own complete set of moves, unlike *VF2*, which has a number of generics. Much is expected from the conversion.

While the Saturn is snowed under with quality 3D beat 'em ups, the N64 has struggled to establish its credentials in this area, with launch titles *Mortal Kombat* and *Killer Instinct Gold* seemingly particularly low-tech beside PlayStation *Tekken 2* and *Megamix* on the Saturn. The situation doesn't seem to be improving, either. HudsonSoft, best known for its *Bomberman* titles, failed to show its 3D fighter, *Dual Heroes*, which has left many to conclude that it still needs a lot of work. In fact, the only beat 'em up on display for the Nintendo console was ***Ultra Battle Royale***, a wrestling game, of all things, again in its early stages. ▶





Tactics Formula One is another Saturn racing game – but hardly cut of the same cloth as the likes of *Sega Rally*. Players will not be able to actually drive the cars themselves – instead, they must manage a Formula One racing season, adjusting parameters, etc, only ever getting to watch the action from the stands...







Coin-op conversion, *Last Bronx*, from Sega's AM3 division, should be a faithful Saturn conversion









Quintet, which created the classic SNES title *Actraiser*, is currently working on *Solo Crisis (left)*, a 3D RPG whose graphics draw heavily on strategy themes









Adeline's *Little Big Adventure 2* is shaping up well for the PC and unlike its two-year-old predecessor utilises realtime background rendering technology for its backdrops as well as its characters. The game should now be able to draw upon a huge range of interactive environments

Metal Gear Solid, from Konami, is shaping up to be one of the most promising titles of the year for the PlayStation, and Konami has confirmed that it's almost complete. Though initial appearances suggest a *Resident Evil*-style blast-fest, *Metal Gear* is something of an original. The environments are true 3D, rather than prerendered, and the view will be switchable between a first- and third-person perspective, the first-person coming into play for close-combat and the external view for locating hidden enemies within the giant warehouse in which the action takes place. The game boasts some extremely polished graphics, that seem to put even *Tomb Raider* in the shade. In-game characters were designed by Kojima-san, revered in Japan for his manga art skills, which should ensure not only strong design values, but a ready-made audience for the title on release.

A loyal following should also ensure immediate success for Konami's polygon-based RPG, ***Goemon 5*** (whose central character's game history dates back to 1984, when he appeared in an 8bit Famicom game). Players may elect to play as either Goemon or his portly friend, Ebisu Maru from start-up, and as the game progresses, new characters come into the fray and are available to control, giving a total of four. The most promising aspect of the game is its obvious similarity to *Mario 64*, with some added gameplay twists such as a first-person view from the cockpit of a controllable giant robot. Konami is looking for a summer release in Japan, although it seems unlikely to ever enjoy a release in the UK – the only *Goemon* game to ever make it here officially was the first SNES title, as *Mystical Ninja*. Those familiar with the series will be weeping already.





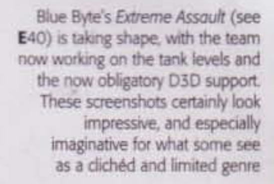






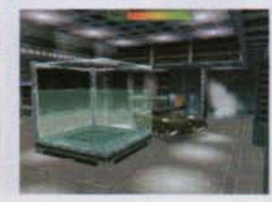






Blue Byte's *Extreme Assault* (see **E**40) is taking shape, with the team now working on the tank levels and the now obligatory D3D support. These screenshots certainly look impressive, and especially imaginative for what some see as a clichéd and limited genre







Samurai Spirits 64 was recently shown in video form at the Tokyo Game Show. Visuals fall short of Model 3 or Cobra levels of performance but it was still an entertaining demonstration of the Neo-Geo 64 hardware. SNK has yet to announce anything officially



Konami's PlayStation title *Metal Gear Solid* looks like it could be the surprise hit of the year (if it actually makes it to Europe). A combination of cutting-edge 32bit visuals and involved gameplay make it a head-turner













Goemon 5 will no doubt be the most unusual title to hit the N64 this year. Not in gameplay terms (it's very *Mario 64* in that respect), but in plot: as Goemon, the player must fight a character called Gogers, a dancer who has sinister ambitions to rule the world. But then the *Goemon* series' appeal has always partly been its quirky humour, and such elements will not matter a jot once players get down to exploring *Goemon 5*'s worlds – and the countless secrets and subgames that lie within









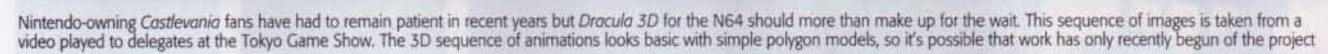










Nintendo-owning *Castlevania* fans have had to remain patient in recent years but *Dracula 3D* for the N64 should more than make up for the wait. This sequence of images is taken from a video played to delegates at the Tokyo Game Show. The 3D sequence of animations looks basic with simple polygon models, so it's possible that work has only recently begun of the project














In a turnaround likely to send waves of doubt through the industry regarding its add-on storage medium, Nintendo has now confirmed that *Zelda 64* will appear first on a 128Mbit cartridge (later this year) and follow on the 64DD format later on. Regardless of the storage medium, these new shots reveal what looks to be the most complex N64 game to date, with atmospheric locations and familiar nasties from, previous adventures now in 3D. Expect more details as the magazine receives them

Baku Bomberman

A forthcoming 3D interpretation of Hudson's revered *Bomberman* further illustrates the N64's dependence on 16bit titles. With new depth and arena size, the classic series has changed beyond all recognition

The predictable promotion to 3D makes *Baku Bomberman* look stunning. Character design is more complex and cartoon-like, while game arenas have changed immeasurably. But will anything of the classic gameplay remain?

Although it is clear the N64 cannot survive on SNES remakes alone, there is obviously a huge and impressively rich vein of 16bit material to mine. *Mario*, *PilotWings*, *StarFox* and *Zelda* have, of course, been earmarked for the next generation treatment, and now that other classic of the 16bit age, *Bomberman*, is undergoing the same transition.

Predictably, the most obvious change the N64 has brought to Hudson's series is the transformation into 3D. Whereas all previous titles took place in a series of 2D single-screen arenas, *Baku Bomberman* features a fully explorable 3D landscape where the player can pick up a variety of objects, and perform many more actions than in previous outings.

Of course, this will all mean some massive changes to the addictive *Bomberman* gameplay of old. Player strategy in the previous titles, for example, relied on being able to constantly monitor the whole screen, anticipating the movements of opponents and planting bombs accordingly. In the N64 version, the landscapes are so large that observation of the entire playing area will be obviously be impossible. Furthermore, because of the restricted space available in the 2D

Format:	Nintendo 64
Publisher:	Nintendo
Developer:	HudsonSoft
Release:	TBA
Origin:	Japan

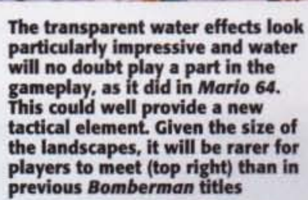


Even after being blown up, characters are cute





The transparent water effects look particularly impressive and water will no doubt play a part in the gameplay, as it did in *Mario 64*. This could well provide a new tactical element. Given the size of the landscapes, it will be rarer for players to meet (top right) than in previous *Bomberman* titles







Catching enemies on narrow walkways will no doubt be a key tactic

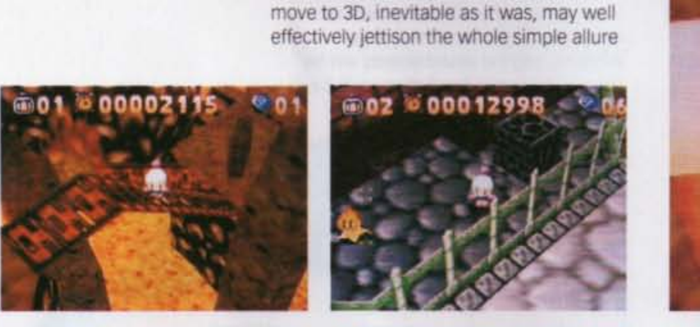
titles, play was incredibly frantic and strategies had to be altered at regular intervals to keep up with the action. *Baku Bomberman* offers more space, so the pace of the game is likely to be much slower, and it will be a lot harder to trap other players – one of the most integral elements of the other titles' gameplay.

Effectively, then, *Baku Bomberman* looks to be more of an action adventure than a frenetic face-off. What with the cutesy characters and colourful, multi-layered environments it more closely resembles *Mario 64* than any other title in the HudsonSoft series. There is one piece of good news for *Bomberman* purists, though: a fourplayer split-screen option is expected which will ensure that at least one key part of the previous titles' successes remains intact.

It's currently unclear whether a 64bit transition will improve *Bomberman* in the way it built upon *Mario* and *PilotWings* or alter it irredeemably for the worse. The move to 3D, inevitable as it was, may well effectively jettison the whole simple allure of the game, alienating a huge proportion of *Bomberman* addicts.

On the other hand, it could also open up a whole new field of strategy and technique built around the core element of placing bombs in the right place at the right time. **Edge** certainly finds it hard to imagine HudsonSoft fumbling the ball with such an important product, and Hudson's argument could well be, 'The aim is to try something new. If you want a 2D, single-screen *Bomberman*, buy a SNES.'

One thing is for sure, *Baku Bomberman* looks gorgeous, and, in these days of style over content, that may be enough to ensure its commercial success.







Baku looks more like *Mario 64* than a *Bomberman* title, partly because of the game camera, which moves to provide varied views of the action







The designers have created some attractive lighting effects in *Baku* – especially the bomb blasts. The huge explosions look very impressive

Dreams

Cryo, the French developer responsible for some of the richest game imagery ever seen, is looking to turn its hand to the world of realtime 3D with a distinctive, sleep-obsessed title







Any initial similarities to *Tomb Raider* are soon dispelled. *Dreams* features some incredibly surreal imagery (which, in an industry that spawned blue hedgehogs and mutant camels is no mean feat) as well as some impressively smooth, hi-res 3D environments – quite a departure for developer Cryo

'It does look a little like *Tomb Raider*, but it's a completely different game. It's going to be much better.'

Brave words from **Tierry Doizon**, the designer of Cryo's enigmatic PC title, *Dreams*. Braver still, when you consider that Cryo has made its name with lavish prerendered titles such as *Lost Eden* with little in the realms of realtime 3D.

After a quiet 12 months, however, Cryo has emerged with a host of titles, many of which are powered by slick, realtime engines. *Dreams* is one of the most promising.

Tomb Raider comparisons aside, *Dreams* should provide something new on several fronts. To begin with, the four levels contain over 120 distinctly odd locations, each exhibiting more than a touch of surrealism. Imagination has never been in short supply at Cryo, and *Dreams* is likely to be yet another showcase for its unique and detailed worlds.

The preferred third-person perspective allows the team to work on creating a distinctive look for the main character, who may, incidentally, be either sex, depending on the player's preference.

The early screenshots seen here are from the unaccelerated PC version.

Considering the broad creative vision driving the project, the engine will have to be impressive indeed if it's to cope with the detailed workload.

'The engine is something we're particularly proud of,' Doizon confides. 'Even without the 3D cards, it will run smoothly in SVGA on a mid-range Pentium, and the environments will be some of the most detailed you will have

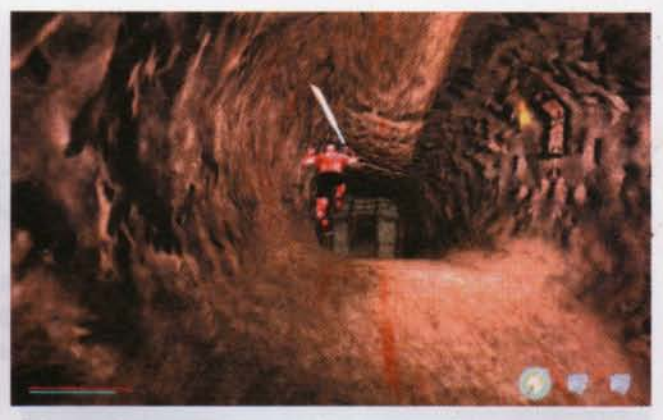


Format:	PC/PlayStation
Publisher:	Cryo
Developer:	In-house
Release:	September
Origin:	France



The textures applied to the main character are far superior to that of *Tomb Raider*, making *Dreams* a richer-looking game. Cryo promises full D3D compatibility, with all the usual visual effects powered up





The player can perform all manner of actions, including swimming, leaping, flying, crawling and climbing, as well as a variety of armed and unarmed combat manoeuvres. Cryo is keen to ensure that *Dreams* doesn't turn into a glorified beat 'em up or, worse still, merely a graphical showcase

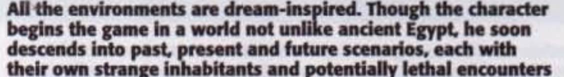
ever seen in realtime. With the cards, of course, it's simply mind-blowing!'

Cryo has, in the past, perhaps relied far too heavily on graphics, often at the expense of gameplay, which is why equal time and effort is being lavished on the AI code to accommodate a host of interactions with other characters in the game. The inhabitants of the *Dream* world may be fought, bargained with, or won over with friendly gestures. Though combat is not discouraged, if employed too often the player may find himself with precious little clue as to how to solve the various puzzles that litter the levels or, indeed, how to complete his quest – it's difficult to question a character that's just been pole-axed, after all. In contrast to Core's milestone platformer *Tomb Raider*, the bulk of *Dreams* takes place outside, as the player wanders the world looking for clues to how best save the 'waking world' from the evils of the dreams dimension.

Cryo's latest is already looking like an artful, imaginative first step into the world of realtime 3D

It may sound somewhat convoluted at this stage, but Cryo's latest project is already looking like an artful, imaginative first step into the world of realtime 3D, a world which Cryo will find a great deal tougher to master than the CD-streamed FMV excesses of its past. ■





All the environments are dream-inspired. Though the character begins the game in a world not unlike ancient Egypt, he soon descends into past, present and future scenarios, each with their own strange inhabitants and potentially lethal encounters



Dark Vengeance

High-end PC 3D seems to lend itself well to dungeon settings. The latest proof, an *Into the Shadows*-style action adventure, packs typical RPG settings with the kind of goings-on normally associated with fighting games





A phoenix from the flames? *Dark Vengeance* will remind many of the original spec for Scavenger's ill-fated hack 'em up, *Into the Shadows*

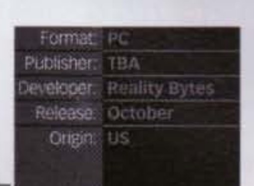
While wishing no evil on its fellow developers, Reality Bytes will be shedding no tears over the recent demise of Daniel Small's Scavenger. *Dark Vengeance*, for all its innovations, bears a striking resemblance to the doomed *Into the Shadows*, the game that had RPG and *Doom* fans alike chomping at the bit during last year's E3 show. While the team is keen to emphasise the differences, the similarities may hold the key to future success for the fledgling Cambridge, Massachusetts-based codeshop.

'We never knew exactly what they were trying to do with *Into the Shadows*,' claims director **John Chait**. 'There's some similarity, in that we have true 3D characters and lots of hand-to-hand combat, and it is, of course, from a third-person perspective, but that's it. I don't think *Into the Shadows* ever really progressed enough for anyone to be too heavily influenced by it.'

There's certainly a lot more to *Dark Vengeance*, still some six months from completion, than was ever the case with the ill-fated Scavenger title. Players will have a choice of ten different characters, including the familiar array of magic users, barbarian types and 'good all-rounders' beloved of more traditional RPGs, and though the emphasis is firmly on combat, there will be a plot that unfolds as the characters advance through the 20 single player missions (just one of which having been in development for over two years).

'I don't want to give too much away,





Format:	PC
Publisher:	TBA
Developer:	Reality Bytes
Release:	October
Origin:	US



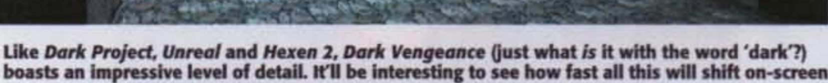


The character models use far more geometry than titles such as *Quake* and *Tomb Raider*, as well as hi-res, filtered (D3D) textures and spot transparency effects









Like *Dark Project*, *Unreal* and *Hexen 2*, *Dark Vengeance* (just what *is* it with the word 'dark'?) boasts an impressive level of detail. It'll be interesting to see how fast all this will shift on-screen

but it's not *Doom*, in the sense of no content – your character is there for a reason,' Chait assures **Edge**. 'There will be tasks and quests within the game which must be accomplished in order to move on, but they'll be pretty simple, in as much as they'll be based around the environment; finding keys, secrets, as well as specific objects relevant to the plot.'

Though as a multiplayer game, *Quake* is unmatched, its oneplayer mode pales by comparison. *Dark Vengeance* varies the pace with an impressive collection of foes (over 60 at the last count) and a variety of environments to explore, all of which will bear the hallmarks of 3D acceleration, with bilinear filtered textures, 24bit colour, transparencies and dynamic lighting.

The team is keen to realise an entire world, and RAM limitations require *Dark Vengeance* to consist of separate levels, these will be made up of a mixture of castle interiors, exteriors and cave systems that will piece together to give the impression of a much larger whole, something that will also lend itself well to the deathmatch and cooperative modes proposed for inclusion. With support for up to 32 players, it's not hard to imagine the kind of riotous violence that could erupt in the head-to-head mode (the close combat required will fill castles with *Toshinden*-like battles) or indeed the epic atmosphere of those same characters forming a giant army to stand against the hordes of beasts that roam the levels.

Though many of the details are yet to be finalised, the attractive combination of multiple characters, a more varied game world than is the usual 3D fare, and the third-person combat sequences, gives *Dark Vengeance* a unique approach that could either win votes from roleplayers and *Doom* fans alike, or alienate both at a stroke. Whatever the outcome, it will certainly interest all those who were left wanting when *Into the Shadows* popped its proverbial cloggs.





The finished game will feature a team-play multiplayer option as well as the obligatory deathmatch mode, which should make for some RPG-style encounters. The levels, too, will be designed to accommodate more players, ramping up the number of objects, puzzles and monsters to match



G-Police

Pulling off a first in totally explorable landscapes, Psygnosis' flight-based shoot 'em up looks set to blast other Christmas releases off the planet









The lighting effects in *G-Police* are a particular strong point. Each craft leaves its own thruster trail, and every weapon the player uses is accompanied by a different blast effect. These luminous displays are even more prominent and spectacular in the hi-res PC 3Dfx version (above shots)



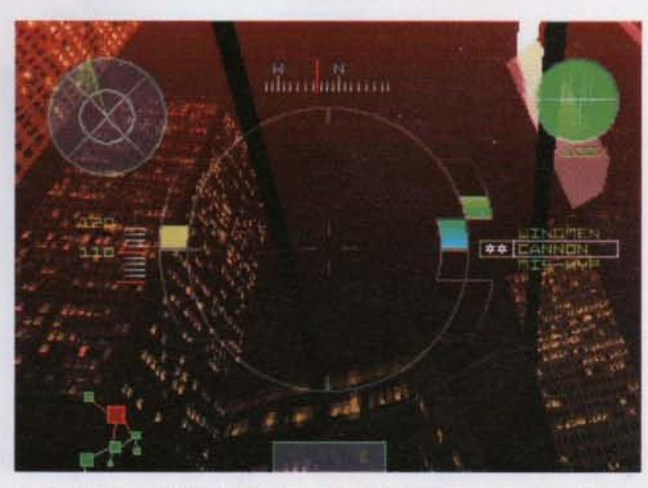


Pedestrian walkways (top) provide futuristic obstacles for the many diverse flight craft

Format:	PC/PlayStation
Publisher:	Psygnosis
Developer:	In-house
Release:	December
Origin:	UK

Psygnosis is not a bashful, insecure organisation. A case in point: a few months ago, while *G-Police* was still far from completion, MD Ian Heatherington predicted it would make the top of the charts for Christmas 1997. Far from being horrified by the pressure this placed on them, the team responsible for the game have similar sentiments: 'The game is excellent,' says **Graham Davis**, head producer at Psygnosis' Stroud office, 'Ian knows this otherwise he wouldn't have said what he said.'

From the evidence **Edge** procured on a recent jaunt to Stroud, this confidence does not seem misplaced. *G-Police* is, after all, a combination of everything that is popular and successful in videogames: a startling 3D engine, violence, wanton destruction – all packaged in a futuristic flight shoot 'em up. Even the setting presses all the right buttons: it is 2097 and mankind has colonised Callisto, one of Jupiter's moons. To remain safe from the harsh elements, the immigrants have erected a series of interlinked domes, each containing vast cityscapes. Maintaining the law in these outposts are the G-Police, who patrol the vast arenas in hi-tech, heavily armed helicopters – which is, of course, where the player comes in. Over the course of 35 linked missions, the objective is to protect innocent civilians from two warring corporations – Nanosoft and Krakov. According to the team, these missions have been designed to avoid the standard 'destroy the enemy vehicles then



The setting is highly reminiscent of 'Blade Runner'. Skyscrapers loom in the darkness and thruster craft infest the heavily polluted skies

return to base' cliche and present something a little more complex. It will for example, be possible to call in ground teams to assist the player, and scan vehicles to locate enemy weapons.

When the game begins, it's not hard to see where the inspiration has come from. The game's producer, **Ross Thody**, admits: 'We've gone for the "Blade Runner" look, simply because it effectively reset the standard for sci-fi when it came out. It was *the* vision of the future city: dark, moody, lots of neon. We wanted our locations to look functional, realistic, grim as well, and *Blade Runner* hit the nail on the head. It's a hard image to beat'.

Edge only saw two of the 50 domes, but it is clear that the team understands its source material well. Huge skyscrapers with hundreds of flickering lights loom out of the darkness in front of the cockpit display, various futuristic motor vehicles

'We've gone for the 'Blade Runner' look because it effectively reset the standard for sci-fi when it came out'

zoom by on the streets below and flight craft cruise by, ducking among the buildings – it's a grubby, gloomy panorama, perfectly capturing the downbeat vision of Ridley Scott's seminal movie. And there's more to come – the team is working on dozens of neon adverts which will be placed around the cities, completing an authentic cyberpunk look. Importantly, though, many domes do stray from this future city recipe. Industrial, mining, skyscraper, solar panel and agricultural domes are all included to add diversity to the game's scenery.

As for the 3D engine, the ability to fly anywhere is not a new facet of the flight-based shoot 'em up – *Thunderhawk, Air Combat, Soviet Strike* and many others have all managed this before. But what *G-Police* does is to place the action among the buildings and structures, rather than above them. As Davis points out: 'We've got a team who have worked on flight simulators before, and they thought, Wouldn't it be cool to be able to fly around a realtime 3D city and blow lots of stuff up. Obviously, it's not something that's been done before and it's not something you'll see a lot of, because to create a 3D city which the player has a full 3D ability to fly around is an epic task in terms of both what the engine can do and the actual art brief. To do a realtime city where you can go anywhere you need tons of 3D art for buildings, cars, planes – especially if you want to give the player lots of environments to fly around.'

Despite these difficulties, the engine is turning out to be a robust and capable piece of coding. Piloting the Havoc craft (a kind of sci-fi helicopter/thrust vehicle) is an impressively realistic experience and the view rarely shudders as the many tower blocks are cruised by. At first the handling is tricky: most of the PlayStation pad's buttons are used and there are two control modes to learn – normal and hover (for when a constant altitude needs to be maintained). But when this has been mastered, players can conduct intricate dogfights with several other craft, swoop between buildings and zoom precariously beneath pedestrian walkways – all with a truly convincing feeling of flight. Most importantly, the engine maintains a steady 30fps update, so the fluidity of the flight experience is never lost.

Ground attacks are also impressive. Some of the game's 35 missions involve taking out huge Gundam-style robots and various other earth-bound vehicles, and for this the player has a fantastically ▶







Everything in the game is destroyable, from civilian flight craft to huge 'attack gunboats'



There are several weapons to choose from including hyper-velocity missiles, starburst dispersion missiles, plasma launchers and military lasers. Here, the player has opted for the Henschel AAG-53E 25mm cannon which will make mincemeat of the craft hovering metres away







Despite the overall darkness of the game, the screen always seems to be full of detail. Various readouts flash insistently at the player while craft zoom by and buildings huddle on the skyline. The player can choose an external camera, but this makes it difficult to control the HAVOC 'copter





The *G-Police* team is currently filling each dome with more enemy and civilian craft. The aim is to create a totally believable 3D game universe



◀ effective 1,000-pound bomb. When detonated, this sends out a huge shockwave, blowing other vehicles into the air, 'Independence Day' style.

This visual diversity and fluidity does have its price, though. The PlayStation version has a slightly shallow depth of vision, with some buildings remaining invisible until the player's craft is close to them. It is a problem the team are working on: 'As we've now functionally completed certain parts of the PlayStation version, we're confident the optimisation phase will significantly increase the depth of vision within the city scape', points out Thody, 'We're keen to prove that the console can deal with a such a complex 3D environment'.

A startling 3D engine, violence, wanton destruction – all packaged in in a futuristic flight shoot 'em up

The PC 3Dfx version should have fewer immediate obstacles. When **Edge** saw it running, it had only just been compiled and no special effects had been added, yet it still looked crisp, detailed and fast, almost resembling an anime movie. And, according to Davis, there's more to come: 'We're going for alpha testing of the 3Dfx version at the end of April and at that point we've functionally completed the game – we can then really start looking into 3Dfx's range of visual effects. We've made the artwork in *G-Police* very scaleable, so it's done at a much higher resolution than you'll see on the PlayStation. Both versions will, however, look stunning.'

G-Police is set to become yet another huge Psygnosis release. Most impressive is the fact that the game is unique both in its use of detailed, totally explorable landscapes and its combination of flight sim craft handling with shoot-'em-up gameplay. The few technical problems the title currently exhibits should be short-lived, and will, whatever the case, be overlooked by an audience greedy for 3D blasting action.

So, Christmas number one? The odds are in Psygnosis' favour...





G-Police employs a virtual cockpit, so the player can look around to survey the scene





The designers of *G-Police* have gone for a heavily filmic look. Hence, when a craft is hit , it rarely just explodes. Often an engine will blow out, leaving a trail of smoke and sending the stricken vehicle dramatically spiralling toward the earth

PURE ENTERTAINMENT



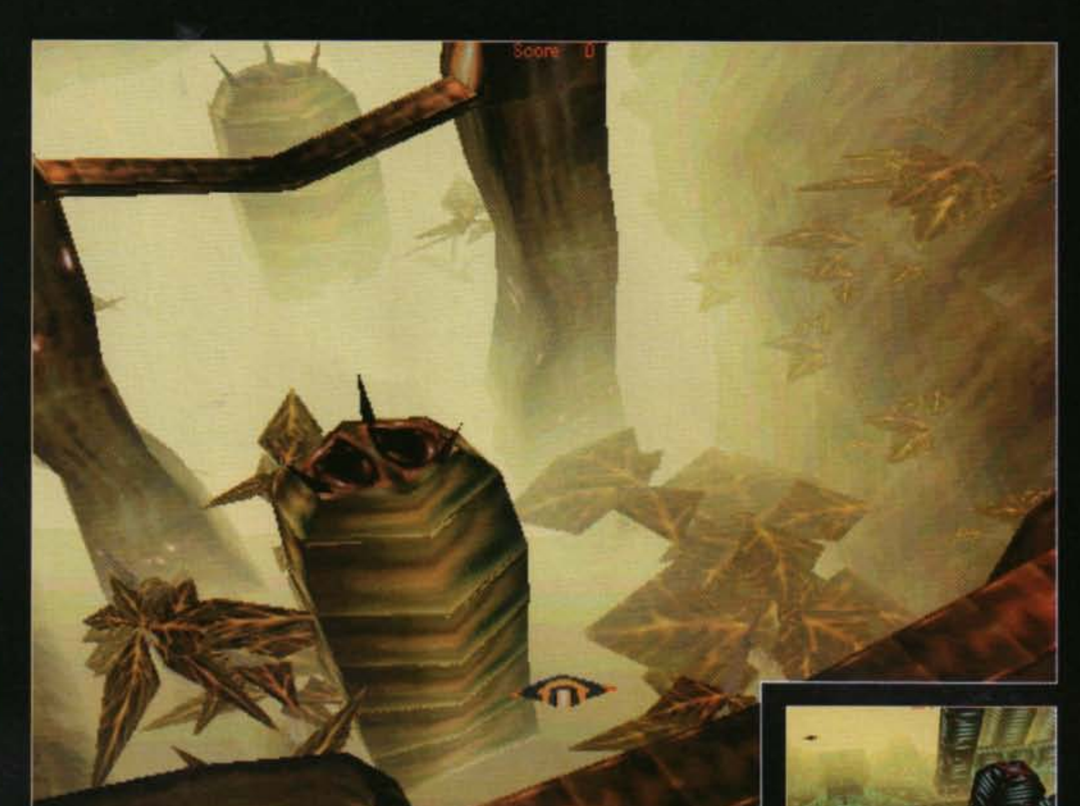
Just into its second year of business, Pure Entertainment is breaking the mould in
3D games with shoot-'em-up *Lunatik* and gangster adventure
Respect Inc due at the end of the year – plus a secret up its sleeve for 1998







***Lunatik* will appear on PlayStation, Saturn and PC, and Pure aims to set a new standard for 3D shoot 'em ups with its fully explorable environments and detailed graphics**



The PC version of *Lunatik* will be D3D compliant, yielding some incredibly atmospheric levels that take full advantage of fogging and transparency effects



Pure Entertainment outside their offices in Russell Square, London

As the Spring sunshine brings office workers out in their droves to a haven of greenery in London's Russell Square, in a small office nearby Pure Entertainment is about to celebrate its first full year of business. The offices are cramped, reflecting the company's quadrupling in size and while new premises in Leicester Square are on the cards, for now the 20 Pure employees and their equipment sweat it out in the roof.

For a young company with only two projects in development (plus a third one that remains under wraps), Pure is generating a lot of interest. Eschewing the standard venture capital route with its associated problems of commission and interference, the company raised its starting capital through a private share issue last April. This route, however, can leave you open to acquisition and since then, the ever-acquisitive Eidos has bagged a minority stake and, according to MD **Harry Holmwood** (pictured left), fielding enquiries about the shares is routine. But wisely, Pure is keeping 51% to itself.

One of Pure's most impressive achievements with the game so far is in pushing the Saturn version to its limits

'It wasn't easy, but it can be done,' Holmwood says of the private issue. 'The amount of money we raised wasn't huge by Hollywood standards, but there was enough so that we could come here, know that we didn't have to earn any money for a year and we could get on with writing games and getting stuff together.'

The first of the company's projects to roll out will probably be *Lunatik* – a 3D, top-down shoot 'em up destined for publication by Eidos on the PC (supporting Direct3D), PlayStation and Saturn in the last quarter of this year. The company is creating gameplay elements for the environment in *3D Studio* and while the frame rate in the debug PC version that **Edge** saw was low, when fully optimised Pure confidently expects a routine 40-60fps.

In updating the top-down shooter to current technologies, though, Pure has faced problems – the major one being the difficulties of piloting a craft with genuine three axis control. 'We built worlds and some ships flying, but you couldn't tell when you were on the same level as people,' says technical director **Richard Groves**. 'Then we were going to go to a graduated system with three or five levels where the player jumps between them.'

The problem with that method was that player control of the craft was lost for three to five frames. The solution, first implemented in January, has been to apply a bump map to the various game environments, leaving the player only having to concentrate on two axis.

'We can actually vary it in realtime as well because it's such a small amount of data,' adds Groves. 'One of the ideas on the wish list is to have a nuclear explosion where the bump map will ripple out and all the ships on it will go up and down and be smashed into things. Also, the puzzle element of ▶

Format:	PlayStation/ PC/Saturn
Publisher:	Psygnosis
Developer:	Pure Entertainment
Release:	Late '97
Origin:	UK





Appearances can be deceptive: though these buildings are 3D objects, the height of the player's ship is governed by complex bump-mapping



The maze-like cityscapes will no doubt provide the perfect arena for the multiplayer deathmatch mode planned to appear in *Lunatik*

the game can then trigger changes in the bump map so an area where you're flying low down in a canyon can become an area where you can reach the top and go over into another zone.

'It's also possible for things to leave the bump map, so that all the civilian vehicles, like monorails, can be underneath and there can be transport carriers or something flying over the bump map. It makes it easier for us because the player can't interact with them, but they can drop enemy ships that can fall down on to the bump map. Things like that bring the world alive.'

Boasting impressive realtime lighting effects, a 'funky hard house' soundtrack from sister label Rude Recordings, extensive AI routines for

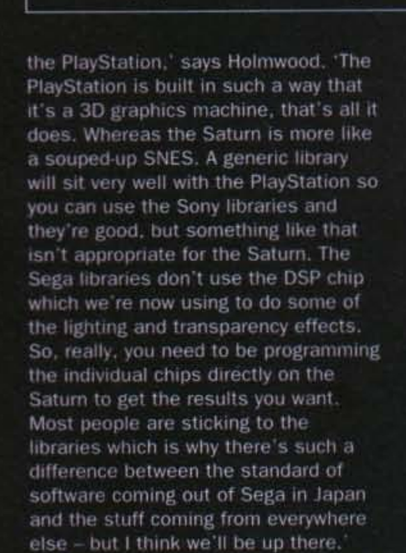
It's a 3D adventure game involving gangsters for which Pure has developed its own animation system

the enemy ships, network play through DirectPlay and Eidos' marketing muscle, *Lunatik* already looks like a good outside bet for the end-of-year sales spike. One of Pure's most impressive achievements with the game so far, though, is in pushing the Saturn version to its limits.

'As we've become more familiar with the way it works, we're now of the opinion that it is a better machine than the PlayStation,' says Holmwood. 'The PlayStation is built in such a way that it's a 3D graphics machine, that's all it does. Whereas the Saturn is more like a souped-up SNES. A generic library will sit very well with the PlayStation so you can use the Sony libraries and they're good, but something like that isn't appropriate for the Saturn. The Sega libraries don't use the DSP chip which we're now using to do some of the lighting and transparency effects. So, really, you need to be programming the individual chips directly on the Saturn to get the results you want. Most people are sticking to the libraries which is why there's such a difference between the standard of software coming out of Sega in Japan and the stuff coming from everywhere else – but I think we'll be up there.'

Pure's second project, *Respect Inc*, will be published by Psygnosis again in the fourth quarter of this year and is a very different game to *Lunatik*. Apparently, Psygnosis doesn't want too much to be revealed, but essentially it's a 3D adventure game involving gangsters, set in a highly stylised universe for which Pure has developed its own animation system.

'Traditional 3D animation means that you're moving polygons around; transforming and rotating them, but the polygons themselves stay exactly the same shape,' says Holmwood. 'For a cartoon, though, you want to do that completely differently. If someone's hit on the head you want their head to





Prerendered sets from Pure's 3D gangster title, *Respect Inc*







Holmwood is confident that the Saturn version of *Lunatik* will surprise many







PlayStation



PC



Saturn



Pure has persevered with the Saturn, and now believes it to be superior to the PlayStation, thanks to the hackable nature of the hardware. Consequently, there's little difference in appearance between the two versions

deform, if someone's punching someone their fist should get bigger and their arm longer. The thing is, you can't do that with any other technique, so we developed animorphics.

'Rather than creating keyframes based on translations, we create a model of a character and from that model we stretch part of it into different poses. The plug-in then generates information for each point and optimises it and compresses it for each platform. Then we just interpolate each point between them. So basically with just two poses you can do a run.'

Moving outside the normal hierarchical animation system into deforming polygons in realtime has given the sequences a distinctive look, but *Respect Inc* is technically impressive in more areas than one. Attention is being paid to the AI, giving the computer characters behavioural subsets that in turn control a virtual joystick governing their behaviour.

'If you take something like *Quake*, it has intelligence in the characters but it's localised,' says **Richard Crowder**, lead programmer on *Respect Inc*. 'If you run round a corner and they don't see you, you can run back again and then you can just jump out and shoot them, or whatever. If there's a group of characters in *Respect Inc* and one sees you, that information is passed down through the group in a hierarchy and they can all react to you.'

Graphically, though, one of the game's most impressive areas lies in the use of inverse raytracing routines using a proprietary plug-in Pure has written for MAX. Realtime lighting will be used throughout the final game for effects shots, but the plug-in allows the 3D artists to design the buildings together with the lights and then export the complete lighting information.

'The normal raytracer,' says Crowder, 'goes from the eye points, through the environment, eventually ending up at the light source and then traces them back to see what objects were hit and what colour comes into your eye. We're starting off at the light sources and travelling along the path of the rays, capturing the light that's propagated into the environment on the vertices and polygons and then using the Gouraud shading to capture the transition between light and shade.

'It can be very limiting with realtime lights in that they're usually localised. There are a few more tweaks and tricks you can use to speed that up, but with this pre-lighting we can have as many lights as we want and there is no localisation of the light.' The result is an atmospheric model that, coupled with the animorphic routines, looks set to produce a novel piece of software.

A third product is easing its way into production too, but beyond stating that it's a multiplayer console game and due to ship in 1998, Holmwood refuses to comment. Consistent rumour, though, links Nintendo to the company. True or not, the new office space will be useful.







***Respect Inc*'s polygon count may be low, but the realtime animation and deformation effects applied are impressive**







Silicon Dreams has great confidence in its new football sim. 'Konami has used quite low polygon models in *ISS Pro* and it does slow down from 30fps to 15-20,' states M2 coder Andy Hersee. '*World League Soccer* will run consistently at 30fps with all the players visible and all the stadium visible'

Silicon Dreams

A West Midlands-based sports game specialist is bringing its experience to M2: an promising-looking 64bit football title is the result. Its 32bit activities, meanwhile, involve what looks like being the best snowboarding sim to date



The Silicon Dreams team, including owner Geoff Brown (front row, fourth from left) and MD Gavin Cheshire (second row, fourth from left)

Edge is not quite sure why, but game developers seem to find something devilishly attractive about the West Midlands. CodeMasters, Rare, Smart Dog, Big Red, Supersonic and Attention to Detail are all entrenched there – as is Silicon Dreams, currently in the midst of developing two extremely promising sports titles: *World League Soccer* and snowboarding sim, *Chill*. It is the former which will provoke most excitement at the moment. Not because of its burgeoning gameplay attributes (definable team formations, advanced AI, etc), but because it is set to appear on the newest 64bit contender, M2.

This is, in some ways, a brave move for Silicon Dreams. Matsushita's console has been shrouded in controversy since first announced, and its forefather, the 3DO, bombed terribly. So why bet on such an uncertain platform? 'To a certain extent we decided to back M2 because we'd worked with Panasonic already,' says managing director **Gavin Cheshire**. 'We did two games for the 3DO – *Olympic Games* and *Olympic Soccer* – and had a working relationship with the company. So, we asked to see M2 two years ago and managed to get two dev kits.'

Despite uncertainties surrounding M2, Silicon Dreams is confident about the machine and, of course, *World League Soccer* itself ('Our aim is to create the most playable football game ever,' says Cheshire). At first, though, the game doesn't impress as much as Konami's N64 title, *International Superstar Soccer*. The latter boasts those distinctive N64 visuals – clean, bright, well-defined – and *WLS* looks rather downbeat in comparison.

However, the game is still very early in development, with motion capturing (provided by Les Ferdinand) and much more visual detail yet to go in. In any case, it is only later when the sheer visual detail of the game becomes clear. The stadiums, built up from thousands of polygons, are packed with animated spectators and cast realistic shadows over the pitch – which itself is convincingly muddy. Plus, although

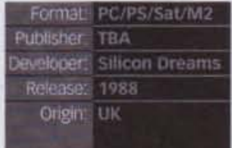








The artists have made full use of currently trendy lens flare effects to spice up the visuals



Format:	PC/PS/Sat/M2
Publisher:	TBA
Developer:	Silicon Dreams
Release:	1988
Origin:	UK



Despite the fact that they are currently working on four versions of the game, the *World League Soccer* team consists of just 12 members







All *World League Soccer* shots on these pages are from the M2 version, but Silicon Dreams also promises high-quality 32bit versions

missing capture data, players are already moving smoothly and realistically at 30fps.

After looking at *WLS*, it is clear that supporting M2 may not be as much of a risk as many might think. Even if the console is never released in Europe, the visual flair on display has had a knock-on effect with the other versions of the game. 'We're actually improving the PlayStation, Saturn and PC versions because of the M2,' confirms Cheshire. 'Our teams are very competitive, and when they see what the M2 is doing, they want to replicate that on their own format. They shouldn't even try it, but they do – and they're getting some impressive results.'

This appears to be true. Both the PlayStation and Saturn versions look good with shadowing and realtime lighting

'Our teams are very competitive: when the 32bit staff see what the M2 is doing, they want to replicate it'

effects that can be compared, in a modest sense, to those achieved on the M2. Even the Saturn's infamous difficulty with transparencies is not being allowed to get in the way. The designers have, instead, emphasised the machine's strengths, using graduation effects on the shadows, and beautiful skyline backgrounds. As on the M2, speed has not suffered as a result of peripheral effects. The PlayStation version should run at 50fps, while on a PAL Saturn the game will maintain a steady 25fps in 640x240 mode.

There is still plenty to be done (the PC version is five months behind the others and its coders are only now investigating several 3D graphics cards as well as MMX) but the foundations for a first-rate football sim are all there. On top of that, it is clear the team has an intricate understanding of M2, something Cheshire believes will be invaluable in the months to come. 'A lot of developers know the market is heading toward 64bit but don't have a clue what they should be doing about it, in terms of what games to create. Well, that gives us an advantage because we know what we should be doing, and you can see that with the M2 version of *WLS*. It's worth it for that reason alone.'

But not all Dreams development is centred toward understanding the 64bit platforms (just for the record, Cheshire is unconvinced by the N64: 'We'll see what happens with it – I think a lot of people in the industry are doing just that') – *Chill* is a snowboarding sim that will initially appear on the PlayStation and Saturn.

The early signs are positive. Very sensibly, the design team has studied Sony's flawed effort, *Cool Boarders*, observed its mistakes and decided not to repeat any of them. Gone, for example, is the rough grey-streaked snow texture. 'We realised early on that, basically, snow is white,' deadpans one artist before pointing out that the Mountain slopes in *Chill* are simply Gouraud-shaded polys, making them much smoother and realistic.

Chill also aims to have more gameplay scope. Like *Cool Boarders* there are three courses, but here they are made up of 30 interlinked routes so players can find their own way down the mountain (instead of having to 'board down narrow tubes). Also ▶



Each player consists of five hundred polygons and casts four shadows on the pitch which react in realtime to the stadium's floodlighting. The stadiums themselves are constructed from several thousand polygons

Silicon history

Silicon Dreams was set up in March '94 as US Gold's internal development team. Back then, it it was headed by ex-Sega men Mr Ishihara and Andy Green. In Oct '95 they were replaced by Rob Palfreman (now operations manager), who ran the company for several months before Gavin Cheshire took over as MD in February '96.

In that time, Dreams has passed through a number of hands. US Gold was first, but when Eidos bought Centre Gold last year, Silicon Dreams came as part of the package. Now the company is part of Geoff Brown's modest conglomerate, Geoff Brown Holdings.

Since '94, Dreams has produced four sport sims: *Fever Pitch*, *Olympic Games*, *Olympic Soccer* and *Soccer '97*. Plus, last year, Dreams bought a 60% stake in Warwick-based developer Attention to Detail. That company is now producing two promising games for 32bit formats – sci-fi racer *G-FX* and 3D action adventure *Gabrielle*.









The PlayStation version uses realistic Gouraud-shaded snow (top) whereas the Saturn version benefits from rich, bitmapped backdrops

◀ like *Boarders*, *Chill* boasts time trial and freestyle options, but in the Dreams title players get points for tricks wherever they're attempted (rather than at set points). There is also a split-screen mode, adding the crucial twoplayer element missing from *Cool Boarders*.

Apart from clever shading and extra gameplay factors, *Chill* has a few more touches to give it merit. All the circuits, for example, are streamed off CD so that, in theory, there are no limits to the length of the slopes. 'We also don't have to worry about memory consumption for objects,' points out producer **Mark Walden**, 'so we can have many more obstacles, textures, etc.' Plus, because of this use of the CD to stream graphics, game music comes from hardware, and alters depending on the on-screen action. A neat effect.

With two potentially excellent titles in development and much M2 knowledge, Silicon Dreams is close to forging a strong position in the videogame industry. But, like the 64bit machine it has chosen to support, the company has a lot to prove. Past titles like *Olympic Soccer* may have boasted fine gameplay, but they failed to really capture the imagination of next gen gamers. After visiting Silicon Dreams, **Edge** gets the feeling the company has learned from the past and is determined not to repeat mistakes. If a network of M2 developers showed this vision then the format's future might look rosier.





A sponsorship deal with top snowboard maker, Burton, has been secured for *Chill*

M2 TECH



Silicon Dreams believes M2 to be the most powerful console in the world. But what are its specific strengths? **Edge** talked to coder **Andy Hersee** about the internal workings of Matsushita's N64 rival.

DEVELOPMENT KIT

Over the past two years, the M2 development kit has been updated three times by 3DO, and a fourth version is on the way, which will shift from a Mac to a PC-based system. This will have several advantages, according to Hersee: 'The fact that you're on the same network as everyone else makes things easier. At the moment, I have to access files from both the PC and the Mac, so we've got converters on the PC – where a lot of the M2 work is done – and then we have to copy this code on to the Mac and run it through another set of converters. It's a right mess!'

SOFTWARE LIBRARIES

'3DO gives you a highly optimised 3D library as part of the development system. The assembler source to this library is also provided, allowing us to modify and optimise it towards a 3D soccer engine. It is also a great piece of example code which helps enormously when trying to get to grips with the machine.'

FLOATING POINT MATHS

One of M2's key strengths is its abilities with floating-point maths – a form of processing which can deal with fractions and decimal places (rather than merely integers), making calculations much more accurate. 'The main advantage is that FPM is faster than integer maths,' points out Hersee. 'You can execute a full multiply and accumulate instruction every cycle compared to around 12 cycles for a 32bit integer multiply on many other consoles. Most operations in 3D and many in 3D game logic rely heavily on multiplies which are traditionally one of the slowest instructions – along with divide – on processors.

Floating point also has the advantage over integer maths in that it is considerably more accurate allowing for larger and more accurately defined worlds and calculations. The lack of accuracy can often cause problems on an integer-based machine, leading to certain features being removed or a workaround. Floating point gives you the power to perform almost any maths and not worry about the accuracy of the result; the sheer speed at which we can calculate these maths allows for better physical modelling of the game. This should provide a higher degree of realism adding better lighting, shadows, collision detection, AI, etc.'

TEXTURE CACHE

'The 16K of texture cache (compared to 2K on the PlayStation) and M2's flexibility with bit depths of textures allows you to store complete texture maps in the cache. By doing this the graphics processor can have complete random access to the texture at a much higher rate than if the texture was stored in main memory. By arranging your 3D engine to plot everything that uses a given texture together, you can reduce the number of times a texture has to be loaded from main memory into the texture cache. This reduces main memory bandwidth and hence gives more time to the main processors which run in parallel while the graphics are being plotted. This approach is only possible when you have a Z buffer to sort the polygons. You could try to use the 2K cache on the PlayStation in a similar way but because you need to sort all polys by their depth it tends to mix up the order that textures are needed.'

Silicon Dreams









Mission: Impossible

Ocean has a rocky heritage in licenced projects, but its latest could become a standard bearer for thirdparty N64 games, combining complex 3D visuals, an engrossing plot and some innovative gameplay touches

'Pretty impressive, isn't it?' **Mark Rogers**, lead designer on the *Mission: Impossible* project, buzzes the door and a security guard appears and ushers **Edge** into the expansive lobby. It's all red carpets, steel and oak, reminiscent of a thousand 'X-Files' episodes and any Bond film you'd care to mention. Considering the current project, it couldn't be more appropriate.

Ocean of California shares its building with a commercial bank on the ground floor. The bank has no walls, it seems, only huge panes of polished glass, making it appear like a fish tank vast enough to comfortably contain a whale, Japanese 'science' vessel and accompanying Rainbow Warrior and still leave room for the CNN News team. What it makes no attempt to hide is a huge safe which occupies the only brick wall in the building. The circular steel door is the size of a house. If Robocop were to pull up in his beaten-up prowler, nobody would raise an eyebrow.

'I met Tom Cruise eventually, and he was such a nice bloke, but he likes to be in control of every little detail'

'It's a bit like being in the game,' Rogers grins, surveying the scene. 'When we did the corridors and the secret base levels, we didn't have to look very far for inspiration.'

It's hard to think of a more commercial licence than *Mission: Impossible*. The film was a storming success, the perfect Tom Cruise vehicle, and although the game won't be ready until the movie's sequel opens this Summer, it's certain to gain a lot of free press from the tie-in. Add to that the fact that the N64 is selling like hot cakes in the States, and both Ocean and its parent company, Infogrames, must be anticipating the first major hit of their recent coupling. Just having Tom Cruise in your game can't be bad for sales, after all.

'Only he's not in it,' says Rogers, glumly. 'We wanted to have his face textured onto your character, but you wouldn't believe how sensitive he is about his image being used in any kind of endorsement or commercial venture, even when it's the game of the film. I met up with him on the set of the movie, after several cancelled appointments, and he was such a nice bloke, but he likes to be in control of every little detail.'

So as far as the game's concerned, Cruise is a no-show. How did the team get around the problem of texturing the main character, then? Bizarrely, the face texture that appears is a composite made up of a certain actor who may or may not have been the lead in the movie, and another who's perhaps more famous for sporting a pair of white flares at a disco than creeping around embassies playing spy-versus-spy. Ocean is understandably nervous about naming names.

When **Edge** eventually arrives on the fifth floor, *Mission: Impossible* is already up and running. The scene is instantly recognisable – it's the embassy section from the movie. There are waiters milling about with trays, guests standing around looking bored and guards waiting by the exits and



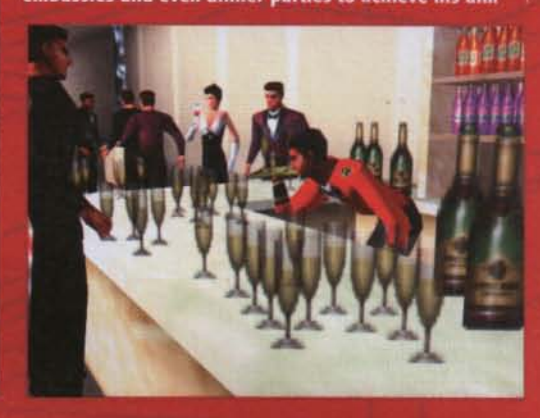




The realtime locations are all suitably spy-themed and will be some of the most detailed yet seen on the Nintendo 64



Mission won't rely on Bond-style shoot-outs to carry the game. Instead, Ethan will have to infiltrate bases, embassies and even dinner parties to achieve his aim







blocking the stairs. Something's wrong, however. The guests aren't moving at all, in fact, and the guards seem oblivious to the Ethan Hunt player-character jogging, Lara Croft-style, around the room. The graphics are almost there, the AI has been written and the levels designed, but still something's missing.

'The AI is written, and we know that it works, but we've been working on it recently, so most of it's not there right now,' explains Rogers. The AI routines developed for *Mission* work on a similar principle to those used by Belgian codeshop Appeal (see **E**44). It's a system that gives each character in the game, from the anonymous crowds to the top CIA agents, a 'brain' that acts under a system of prioritised routines governed by intelligent 'agents'. One agent may, for example, take care of survival needs (self-defence, aggression, etc), another of group activity (raising the alarm, fetching reinforcements, etc) and another for the senses (sight, hearing, etc). Most characters will be going

'The logic that drives *Mission* is like a "people simulation" – all the CPU characters have a high degree of AI'

about their normal business until interrupted by an agent, which can be triggered in any number of ways, from firing a shot to simply acting suspiciously or looking out of place. Rogers explains: 'As far as the logic that drives *Mission*, it's a bit different from other games – it's kind of a "people simulation". The computer-controlled characters in the game have a high degree of artificial intelligence: they have a field of view, they have a brain and they have a personality of sorts – several states that they can be ▶







The team spent months recreating the movie sets

Format:	Nintendo 64
Publisher:	Ocean
Developer:	In-house
Release:	June
Origin:	US



Each detailed character models consists of over 350 polygons, and feature extremely life-like facial textures (left). At one point, Ethan disguises himself as a waiter (below). The .45 automatic may give him away, though







in, their core activities. Take a waiter, for example, serving drinks for people – that's his core task, and he will do that until something more interesting comes along, until someone shoots him, or insults him, at which point he will perform a different set of cognitive routines, like go and tell a guard, or get the hell out of there.'

All impressive-sounding stuff, but with only three months left before deadline, implementing such complex routines may prove more of a headache than anticipated. Another, and perhaps larger, problem, will be tuning the gameplay to take advantage of the AI. There's not much point in having semi-intelligent opponents if all you need to do to get through is shoot them. Thankfully, this is something that Rogers and his team were determined to avoid right from the start, some 18 months ago, and it marks something of a departure.

Ocean has a less than illustrious past where film licences are concerned, churning out substandard affairs (notably the likes of *Top Gun*, *Robocop* and *Lethal Weapon*) with depressing regularity throughout the 8 and 16bit era. Few of those games bore even vague semblance to the movies they were based on – a result, in the main, of being developed 'blind', the designers given no advance notice of the content or plot of the movies from the studios. As contested by

'You don't actually shoot anyone. That was something I know Tom insisted on from the beginning'



Despite having the full licence to the film, Ocean had problems: Tom Cruise refused permission for his face to be used as a texture for the lead character (right)







Despite the emphasis on problem-solving and deception, there will be ample opportunity for action-hero antics (above) – though nobody dies



The first level sees Ethan attempting to rescue a female computer programmer



Each stage is time-sensitive, hence the digital display ticking away in the corner. A simple device, but it should provide some added tension

Rogers' Frequent Flyer points, Paramount – and Cruise in particular – are heavily involved in the project, and are notified of all plot adjustments, level and character designs and artwork – every aspect of the game is examined to ensure that N64 *Mission: Impossible* is an ambassador for the valuable Paramount licence, a combination of Cruise-control and the powerful N64 hardware that should ensure that the game raises a few eyebrows when it arrives in the summer.

'You don't actually shoot anyone,' reveals Rogers. 'That was something that I know Tom insisted on from the beginning, because he doesn't believe in it and also because in the movie, Ethan's character doesn't shoot anyone. He was very insistent about that, and it's really good because you have to create problems and puzzles and tasks that don't just rely on blasting everything in sight.'

And that's where the AI kicks in. Opponents can be shot with a tranquilliser dart, but that won't keep them down for long, so other, less violent, approaches are needed. In keeping with the film, Ethan is able to disguise himself as other characters – a unique concept that should make for some interesting play. It will be possible, for example, to drug an opponent, hide the body and assume his identity. The guards will, however, eventually discover the body and raise the alarm, and some may be suspicious of your character in disguise and ask some awkward questions, in on-screen-text form.

To keep things cracking along at a decent pace, there are some levels that require heavy use of the dart gun, but of the seven, most require a healthy mix of cunning and violence. Level two is an island, and much of the action takes place in the open. The complex terrains are rendered with ease, with none of the tell-tale fogging effects masking the clipping, a sure sign of an elegant 3D engine. David Dixon, lead programmer on the project, claims that the secret lies in talking directly to the chip through Nintendo's efficient microcode. In this way, *Mission* features particle effects to generate snow and realtime light-sourcing, with each character made up of 350 polygons (*Tomb Raider*'s Lara Croft, by comparison, consists of less than 200), enough to give every one their own distinctive appearance.

Development is moving quickly, and the team are hopeful that they will meet their June deadline. At this stage, it looks unlikely. The game is so ambitious that the team will have to work like demons to pull it all together in time for the proposed release – an essential deadline, as Cruise is rumoured to already be putting the finishing touches to the next movie. The clock is ticking...

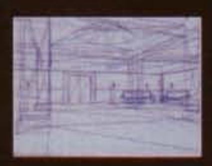




The exterior scenes are especially impressive, with no pop-up or fogging in evidence, despite the high level of detail and evidently large scale of the maps

How it's done...

The art for *Mission* was created by Adrian Ludley, and the engine by David Dixon, who almost singlehandedly brought the game/movie tie-in to the next generation with the underrated *Robocop 3* on the Amiga in '94. Between them, they created *Mission*'s complex environments that give much of the game its distinctive Cold War feel. The textures were created on Silicon Graphics workstations and the resolution scaled down for the N64 and applied to the multi light-sourced polygon models that make up the detailed scenes.









***Mission: Impossible*'s graphics play to the N64's strongest suite: the complex textures employed bely the relatively simple nature of the geometry used, with impressive effect**

Actua Sports

With new football, golf, tennis and ice hockey titles due by Christmas '97 Gremlin Interactive is putting up a fight against EA's stranglehold on sports games, moving one step closer to creating a truly global brand







In PC *Actua Soccer 2*, players boast textured faces of famous players (top), as well as realtime shadows and more polys



Format:	PlayStation/PC
Publisher:	Gremlin Interactive
Developer:	In-house
Release:	Christmas '97

It was no surprise when EA's *FIFA '97* moved straight into the number one position over Christmas, eclipsing even *Tomb Raider*. What was perhaps surprising was how poor a title it turned out to be. Despite luke-warm reviews, it sold astoundingly well, underlining the value of a solid brand coupled with a worldwide licence. Gremlin Interactive, whose *Actua Soccer* game lost out to *FIFA* last year, is hoping to break the EA stranglehold by establishing its *Actua Sports* brand, with new golf, ice hockey, tennis and football titles due by Christmas '97. **Edge** visited Gremlin's HQ in Sheffield to learn more about plans for the Actua brand and the slew of imminent titles.

Launched first on PC and later on the PlayStation, *Actua Soccer* gave Gremlin the technical credibility it had been lacking since the heady days of *Lotus Esprit*. The press-friendly combination of motion-capture technology and pioneering 3D created a media buzz absent from *Slipstream 5000* and *Zool*. PlayStation development aside, the Actua titles are now at the heart of the company's success, and the popularity of EA's own Sports range suggests that building the brand is an essential next step.

FIFA '97 may be a weak title and its Nintendo debut perhaps even worse, but both will outsell their rivals. With a brand identity that strong, Gremlin must wonder how it's going to get even close. **George Georgio**, product manager for the Actua Sports range, believes the key lies in more titles of better quality and an equal marketing spend.

'Why does *FIFA* sell so well?' he sighs. 'Because the people who go into a shop to buy a football game probably don't know about computers and the first thing they see is a wall of *FIFA* boxes.The choice is made for them by the marketing.'

That's not a new problem for Gremlin. Its 1995 release, *Slipstream 5000*, one of the best early 3D titles for the PC, was substantially better than the uninspired Bullfrog racer, *Hi-Octane*, but it lost out simply because of the Bullfrog name. At that time, the Gremlin name was unproven in the burgeoning PC market, but since *Actua Soccer*, it's gained respect, although there's probably still some doubt if a famous name from the 8bit days can put the consumer in mind of progressive, next-generation titles.

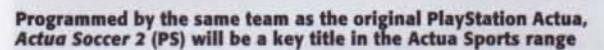
It was, perhaps, to counter such associations that the company opted for a name change, from Gremlin Graphics to



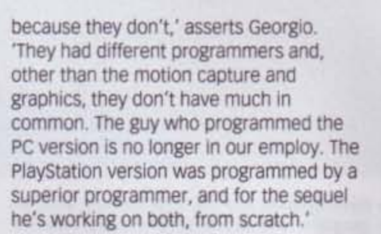




***Actua Soccer 2* will be the next Gremlin title to further establish the Actua Sports label as a truly global brand**

Programmed by the same team as the original PlayStation Actua, *Actua Soccer 2* (PS) will be a key title in the Actua Sports range





With the sequel, Gremlin promises a multitude of options, as well as hi-res PlayStation graphics

Gremlin Interactive in 1994, and called its sports range Actua rather than Gremlin Sports. But Gremlin is quick to point out that the brand name was reached in a less calculating way, as an in-joke following the long line of Sega 'Virtua' titles. It stuck.

Whatever the motivation, the brand has a loyal following, particularly among PlayStation gamers, thanks to a superior version of *Actua Soccer* and the release of the follow-up title, *Actua Golf*.

Though *Actua Soccer* was launched on the PC, it was flawed (with incompetent goalies and an unusually high number of fouls) and it wasn't until the PlayStation version that the plaudits arrived. Looking at the two games, it's hard to believe that they share the same basic code. 'That's because they don't,' asserts Georgio. 'They had different programmers and, other than the motion capture and graphics, they don't have much in common. The guy who programmed the PC version is no longer in our employ. The PlayStation version was programmed by a superior programmer, and for the sequel he's working on both, from scratch.'

'If you've got a shit game, then it doesn't matter how big the licence is, it won't sell'

As well as an all-new, faster 3D engine that uses real polygon models instead of the sprite/poly meshes of the original, the game benefits from improved texturing. In the early version seen by **Edge**, several famous footballers were recognisable on the field. This was only available on the PC at the time, but because the game will take advantage of one of the PlayStation's rarely used hi-res modes (512x240), a comparable level of detail shouldn't be a problem. The design team have been immersed in soccer games, from *Kick Off* on the Amiga to Konami's recent PlayStation *International Superstar Soccer* success. To beat *FIFA*, Gremlin needs to spend a fortune on marketing, and to beat *ISS*, *Actua Soccer 2* has to be very special indeed. Head of production, **Tim Heaton**, is confident Gremlin has learned enough to make it work.

'On the PlayStation, in particular, we're learning more about how to get the most from the hardware,' he reveals. 'The first game you do on a platform, you're just ▶



Actua Tennis (PS) should be out for Wimbledon and features true 3D play. Making this as playable as the old 2D games won't be easy







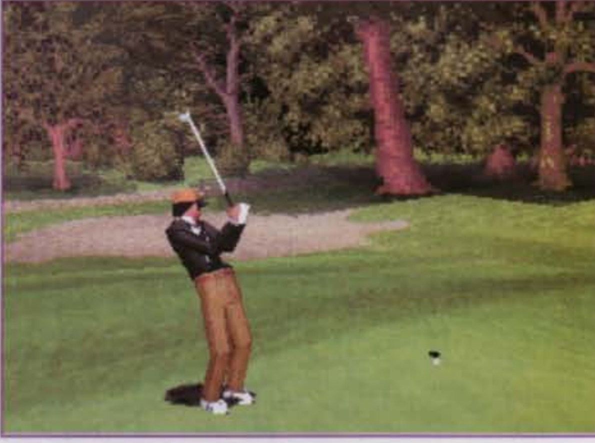









Actua Golf 2 is currently in development for the PlayStation, with an improved 3D engine, hi-res graphics and more adventurous, courses



Gremlin aims to match Electronic Arts product-for-product. *Actua Golf 2* will therefore go head-to-head with *PGA '98* in the Autumn

◀ trying to make everything work and then, when you get to your second and third generation of games, you know more about what you can and can't do, and that speeds up the technical side, leaving you with more time to work on all the extras you want to build into the gameplay.'

Actua Soccer 2 won't appear until later in the year, but when it does it may have more to it than the Actua tag. Gremlin is looking to scoop the official Premier League licence which means photographs of the players, their real names and all the official stats can be included in the game. It's a good licence, but it's not in the same league as EA's *FIFA* brand, which had a global appeal. **Steve McKevitt**, Gremlin's marketing manager, is unperturbed.

'It's an old saying,' he states, 'but you can't polish a turd. All that licence deals and marketing do is act as a laminate – a surface gloss. If you've got a shit game, then it doesn't matter how big the licence is, it won't sell. That's a licence. A brand is slightly different – it can carry a substandard game for a while, and that's how the FIFA brand has worked for EA.'

When the two games finally meet this Christmas, the winner will be *FIFA*, for no other reason than it always sells well worldwide. But, with a huge marketing spend behind it, Gremlin is confident it will regain the allegiance of those who owned the PlayStation original, as well as the PC audience and a few floating voters.

Not everything rests on the success of the soccer sequel. In the meantime, Gremlin will complete four more titles in the Actua range. With *Actua Tennis* it aims to produce a true 3D tennis game that's as playable as the likes of 2D classics, *Super*







PC *Actua Golf 2* offers 3Dfx card support, yielding some breathtaking 3D scenery to spoil a perfectly good walk





PlayStation *Actua Ice Hockey* features detailed player models and effective transparency effects and reflections on the ice rink surface



Ice Hockey could bring Gremlin the Stateside success it so craves. It will, however, be published under the Interplay VR Sports brand as *VR Hockey*

Tennis and the ancient Spectrum title, *Matchpoint*. There's debate among the design team as to how to handle the camera angles to deliver the joint benefits of motion-captured polygon players and instant playability. **Tim Heaton**, Gremlin's software manager, is realistic.

'It's not going to be easy,' he says. 'Everyone would like close-ups of the players because it looks good, but the closer you get, the more difficult it becomes to see the ball coming at you – the camera's too low. So, we can take the camera up, and zoom out a little, which sorts out the problem, but then it doesn't look as... well, 3D. A lot will come down to how easy we make it to control. It's certainly something that's going to take a great deal of testing to get right.'

Actua Golf will make a return to the PlayStation in the form of *Actua Golf 2*, with extended control options, greater graphic detail and a smoother, faster engine. Though never as slick as EA's *PGA '97*, Gremlin's first golf game was a brave and largely successful attempt to move a traditionally dull genre into the 32bit era, creating a rotatable 3D polygon-based course and golfer, with customisable cameras and set-ups. The game will also make its debut on PC this year, and it already looks like the most realistic golf sim to date. It's not the most exciting of genres, but golf is a big seller on the PC, and *Actua* is the only game to use true, scaleable 3D environments, with full support for all major accelerator cards affording stunning scenery, transparent water and multi-layered cloud textures.

Completing the set, though not due until the Autumn, is *Actua Ice Hockey* – an unusual choice for a UK developer, particularly considering the lack of TV coverage the sport receives in this country. Gremlin is thinking far further afield than the UK, however, and hopes to sell the game into the Canadian and American markets, rivalling the old enemy, EA, whose NHL licence has dominated since its launch in 1993. It is unclear yet whether Interplay will publish the title under its own VR Sports brand, as it did with *Actua Soccer*, or whether it will be publishing its own ice hockey title. The game uses the *Actua Soccer 2* engine (to the extent that when **Edge** demo'd the game, the players were still footballer models) and will appear on the PlayStation, Saturn and PC. There was also loose talk of *Actua Soccer* making it to the N64 in '98, and with the recent acquisition of DMA Design, Gremlin will have no shortage of programming talent to make the leap from 32 to 64bit technology.

So, 1997 for Gremlin means consolidating its position on Sony's machine and playing tough with the Actua brand, going all-out to upset the EA Sports label. Its success is uncertain, but with Actua Sports Gremlin has made the leap from first division to the Premier League of publishing, and has moved a step closer to creating a truly global brand. Not at all bad for a company that began in the back of a computer store in 1982...





Realtime colour lighting effects such as these stadium spots are no problem for the new Actua 3D engine









The game uses the same 3D engine as *Actua Soccer 2*. It will need to be fast to outperform EA's *NHL* titles

nuMedia

in association with 

No 13

A meeting point for media capitalising on the digital entertainment revolution

As the author of online culture polemic, 'Deeper', would happily admit, technology is inescapable. Hence, this month sees a handheld PC which can be escorted anywhere and a MiniDisc camera which has practically enough memory to snapshot your whole life. On the more creative side, **Edge** looks at Roland's Groove Box which has the potential to turn dozens of lonely technology addicts into fully fledged Chemical Brothers. Not necessarily a bad thing 





PlayStation Underground



Any PlayStation owner unhappy with Sony's apparent lack of effort in getting information to its registered UK members will not like what is happening over the Atlantic. In America, rather than receiving two demo discs in 19 months, customers sending off Sony's registration card will delighted by a copy of the *PlayStation Underground* CD magazine dropping through their letterboxes.

Comprising two CDs bursting with game-related information, *Underground* differs from other demo discs by adopting a magazine-style presentation. Indeed, after a short rendered intro, the user is presented with a contents page enabling access to the disc's contents. Here, the player has a choice of options including interactive demos, the-making-of footage, previews, downloadable codes, special offers, competitions and even a video outlining the work involved in setting up the E3 exhibition.

Of particular interest is a substantial interview with Sony Interactive Studio's producer and designer, Dave Jaffe, who was responsible for *Twisted Metal 2* (a game which is also the subject of a behind-the-scenes feature included as an interactive demo). Although the questions in the interview are not particularly probing, the piece is reasonably interesting, and more of this sort of insider comment would certainly be welcome on demo items such as this. The second disc focuses solely on games, offering playable excerpts of new titles such as *MechWarrior 2*, *Spider* and *Rage Racer*. Also, there is a look at forthcoming releases including a playable level of GT Interactive's *Oddworld: Abe's Odyssey*, as well as a preview of *The Lost World*, based on the soon-to-be-released Spielberg movie.



And that's not all. Hiding among the discs' digital depths are two music videos, a selection of cheats, and – surely more impressive – a rolling preview of Capcom's *Resident Evil 2* together with an early look at Sony's next big title (whose name the company will not divulge). Finding these is left to the player's initiative, but access is often granted via a seemingly random sequence of button presses while loading other demos.

However, while it represents a veritable mine of information for registering NTSC PlayStation owners, further issues are not free – a subscription fee of $29.95 is required to receive more issues of the quarterly production.

Nevertheless, *Underground* marks a new approach and, indeed, sets a new standard for demo discs – something that will no doubt be welcomed by the many game players who have a genuine interest in the industry. If Sony UK was to follow suit and produce a European version of *Underground*, it could prove a viable (and commercially lucrative) method of informing the PlayStation's registered userbase.

- Sony Computer Entertainment America
- CD Magazine
- $30 yearly subscription
- Available quarterly









Music 





Somehow the bros' debut transformed from an impressive exercise in big beats to a coffee table classic – thanks, no doubt, to the sheer ferocity of those switchblade drum loops. The second effort bears similar hallmarks – namely that the non-vocal tracks aren't melodic enough to captivate part-time beat freaks, however with more funk in their stride this time around, Ed and Tom have got the hang of occasionally holding back the wall of sound, bringing to mind the likes of DJ Shadow and Electromagnetic MCs in bigger boots.





It's ironic that, for a form of dance music with its roots in the spiritual, much Goa trance sounds hollow at the moment. The format must evolve – something that *Trance Cyberdelic* recognises, showcasing eight doses of trance which draw on that unique sound, but fuse it with dynamic, hard-edged elements. It's largely a success, the likes of 'Stratofearless' from Kox Box and Sasky Wizard's 'Cosmic Energy' pointing to a more robust, forward-looking brand of trance. Even so, 70 minutes of this is likely to fry your brain cells. But then that's probably the idea.

Gadgets

- MD-PS1
- Sharp
- £TBA
- Available October '97

Sharp MiniDisc Digital Camera



Sony must be kicking itself. Its rival, Sharp, has created the blueprint for the next generation of digital cameras by simply kitting out its latest digital snapper with one of Sony's MiniDisc drives. The result is the MD-PS1, a digital camera sure to spawn many imitators.

While techno freaks will instantly appreciate the appeal of having two gadgets in one box, there's a point to the whole exercise. Whereas the average digital camera generally has to make do with a paltry 4Mb of solid-state storage, just one of the MD-PS1's removable MiniDiscs can store 140Mb of data. This equates to over 2,000 photos at 640x480 resolution. Trying to find one snap in a bank of 2,000, of course, would take you into needle-and-haystack territory, so helpfully, the MD-PS1 enables you to arrange your photos into folders, displaying the top photo in each folder on its 2.5-inch colour LCD display, so that you can drill down to the one you want.

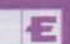
But MD-PS1 owners are unlikely to want to fill each MiniDisc to capacity with just photography, because the camera's built-in microphone means you can also record sounds. These could be simple voice annotations detailing information about when the photos were taken, or even background sounds to add atmosphere. Indeed, if you so wished, you could record up to 74 minutes of sound on a MiniDisc. Or, if fatigue afflicts your trigger finger, you can just slip in a music MiniDisc and listen to it through headphones.

But what really sets the MD-PS1 apart from existing digital cameras will be the PC software it is supplied with. Although it's a stills camera, you can set it to snap away automatically at intervals ranging between 20 milliseconds and 24 hours. The software will have an animation element which will smoothly stitch together sequences of photos from day-long time-lapse efforts right down to split-second stroboscopic affairs, and play them back as animations on your PC.

Another mini-application it will have is a panoramic view stitcher. With this you can take vertical or horizontal panoramas consisting of several shots, or even panoramas which are a combination of the two. To do this you choose a template – ten shots arranged horizontally, for example – and then drag and drop the photos into position on the template. Press a button and it will stitch them together, creating one huge panoramic view with a scroll bar at the bottom or side.

Already on sale in Japan, the MD-PS1 won't reach the UK until October. For now Sharp will only quote a sub-£1,000 price, although privately it reckons it should cost a lot less. At last, after a struggle with Philips' rival DCC technology, MiniDisc seems to be coming of age. Where will it pop up next?

Sharp MD-PS1 Contact Sharp customer helpline, tel 0800 262958

Gadgets

- Roland
- Realtime performance box/sequencer
- Available now
- £565

Roland MC-303 Groove Box



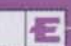


Roland's MC-303 brings the creation of dance music to even the most unmusical of souls. A music factory in a box and a composition aid, it could well usher in a new era of electronic music composition. Switch on the machine and the demo gives a storming taster of what's in store – drum build-ups, cutting techno lead sounds and all. Thanks to the MC-303's ability to make things as easy or complex as the user demands, beginners can tap into the 120 song sections, linking them to build up a tune before learning to modify elements in realtime using resonance and cutoff dials (great for acid squiggles), envelope filters (to alter attack and decay), as well as arpeggio, delay, chorus, flanging and quantisation effects.

User patterns enable the player to write song parts from scratch or to modify existing ones, building up each song instrument by instrument, track by track, until an eight track recording has been committed to memory. And then it's still possible to add further elements, kicking in patterns, effects and sounds during playback using the realtime performance mode. Manipulation of existing sounds and patterns or creation from scratch, step-by-step sequences or on-the-fly experimentation – it's possible to approach the Groovebox with as much modesty or ambition as desired.

Seasoned musicians may scoff at the idea of an all-in-one machine, not to mention the digital emulation of classic analogue sounds. And serious users will want to hook it up via MIDI rather than using its tiny tots keyboard. But for the novice, Roland's machine provides a near-revolutionary way to discover the secrets of dance music creation. And thanks to the incredible quality of the in-built sounds and the wealth of possibilities opened up by the versatile pattern and effects features, the MC 303 more than holds its own as a serious composition and live performance tool too. That house, techno or jungle classic really is just one key press away...

Roland MC-303 Contact Roland, tel 01792 702701



Music

More Songs About Food...
Carl Craig
Planet E Communications



Not content with merely inventing techno, along with fellow Detroit man Derrick May, Carl Craig has spent the last few years combining high-profile remixing with pushing back the boundaries of electronic music through his own recordings and his label Planet E. Whereas *Landcruising*, his debut album under his own name, was clinical and machine-like, this is an altogether more organic affair. Typically epic, it mixes oldies (such as the legendary tracks 'Domina' and 'At Les') with several new efforts. In turn, melancholic and uplifting, it's undoubtedly experimental, but above all, seductive.

Stockwell Steppas
Two Lone Swordsmen
Emissions



Under his latest guise, Andrew Weatherall has found yet another expanse of fertile ground in which to plant the seeds of aural delight. Categorisation of the fruits of Lord Weatherall of Sabres is always dangerous, but this short LP takes in deep house, mellow four-to-the-floor techno, restrained drum'n'bass and a touch of ambience. All, of course, given that inimitable Weatherall spin. Sheer attention to detail combines with an abundance of tunefulness to create what, although perhaps is not a classic, will more than satisfy the discerning listener.

Gadgets

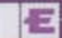
- CD-VC50
- Pioneer
- £250
- Available now

Voice-activated car CD

This gadget could prove to be a major contribution to car safety – for the rich, at least. It works best in conjunction with Pioneer's 50-disc boot-mounted CD autochanger (the two items together cost £500).

The system comes with a sun visor-mounted mic and a wired remote control. Once you've recorded a name for each CD in the autochanger, simply press a button on the remote and say something like 'The Chemical Brothers', and it selects the correct disc.

Voice recognition technology seems to have a big future in cars – it could, for example, be used for alarms and security systems. But it's early days, and Pioneer is promising more systems along the lines of the CD-VC50 which would enable volume control and track selection. In the meantime, this should keep you ahead of the Joneses.



Pioneer CD-VC50 Contact Pioneer, tel [illegible]

- Velo
- Philips
- £600
- Available Summer '97

Philips handheld PC





Philips' Velo is agreed to be the pick of handheld machines which make use of Microsoft's Windows CE operating system, the handheld-specific version of Windows 95. Although bigger than a Psion 3c, Philips has used the space well to equip the Velo with a very usable keyboard.

Its specification tends towards the high-end for machines with a built-in modem (WinCE comes with all you need for faxes and e-mails), an adequate screen and a pen which is best used as a mouse substitute. Game enthusiasts should note that Microsoft is releasing a Win CE Entertainment pack, mixing old favourites like *Solitaire* and *Missile Command*. It also has some impressive mapping software in the pipeline, although it'll be some time before machines come with built-in GPS systems which can hook up to this.

Philips Velo Contact Philips consumer helpline, tel [illegible]

Books

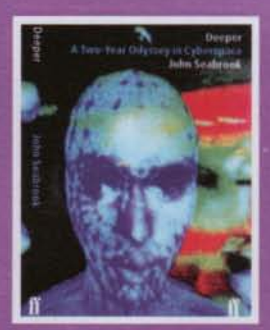
Deeper: A Two-Year Odyssey In Cyberspace

- John Seabrook
- Faber and Faber
- £13
- ISBN 0-571-17533-3

John Seabrook began his career in print journalism, but, seduced by the call of online culture, gradually metamorphosised into a Net missionary who's now determined to spread the gospel that is cyberspace.

'Deeper', which charts this journey into computer networks, is intensely personal, making it stand out from most other recent cyber tomes. It is also full of familiar icons and analogies which means technologically-challenged readers are able to empathise with Seabrook in a way they perhaps haven't with other Net authors. To show us what this brave new world is like to live in, for example, he likens it to the American frontier of the last century and paints himself as a pioneer on the brink of a virtual landscape. An interesting and innovative approach.

Today, the Internet is everywhere and it is easy to forget that, until recently, it was hardly anywhere. But Seabrook was there at the very dawn of the technology, and what he saw, felt and experienced is here in this very personal diary. An absorbing read.



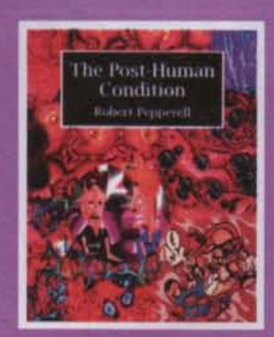
The Post-Human Condition

- Robert Pepperell
- Intellect
- £15
- ISBN 1-871516-45-5

Robert Pepperell, a founder member of HEX (one of the most influential youth culture collaborations of the '90s), has an interesting if at times spurious theory. Taking on board a range of subjects from the natural sciences to high technology, he argues that Man is now entering the post human stage of his evolution and that the human-centred universe is a thing of the past. In the future, machines, people and nature will exist as parts of the same system.

As Pepperell puts it: 'Machines are gradually acquiring human characteristics, and humans are gradually acquiring machine characteristics. It is almost inevitable at some point, that the two will merge to the point where we cannot be absolutely sure of the distinction between them.'

Littered with Pepperell's illustrations, his book is an interesting look at the current state of human development in the post industrial era. And although many people will agree with Pepperell's views and conclusions, whether they will want to join this group after reading his book is another matter entirely.



Music



Accidentally Classic | Freddie Fresh | Harthouse



Freddie Fresh exists in a musical vacuum in some backwater in Minnesota, but has a top-notch track record when it comes to collaborations, and a collection of vintage analogue synths to die for. 'Accidentally Classic' fuses electro, trip hop and Latin American house in a most beguiling manner. Its layers of subtle melodies require several listens before they sink into your consciousness (with the exception of the housey stormer 'Chupacabra'), but once they insinuate their way into your brain, they remain there long after you've tired of listening to the rest of your CDs. Mr Fresh is a man to watch.

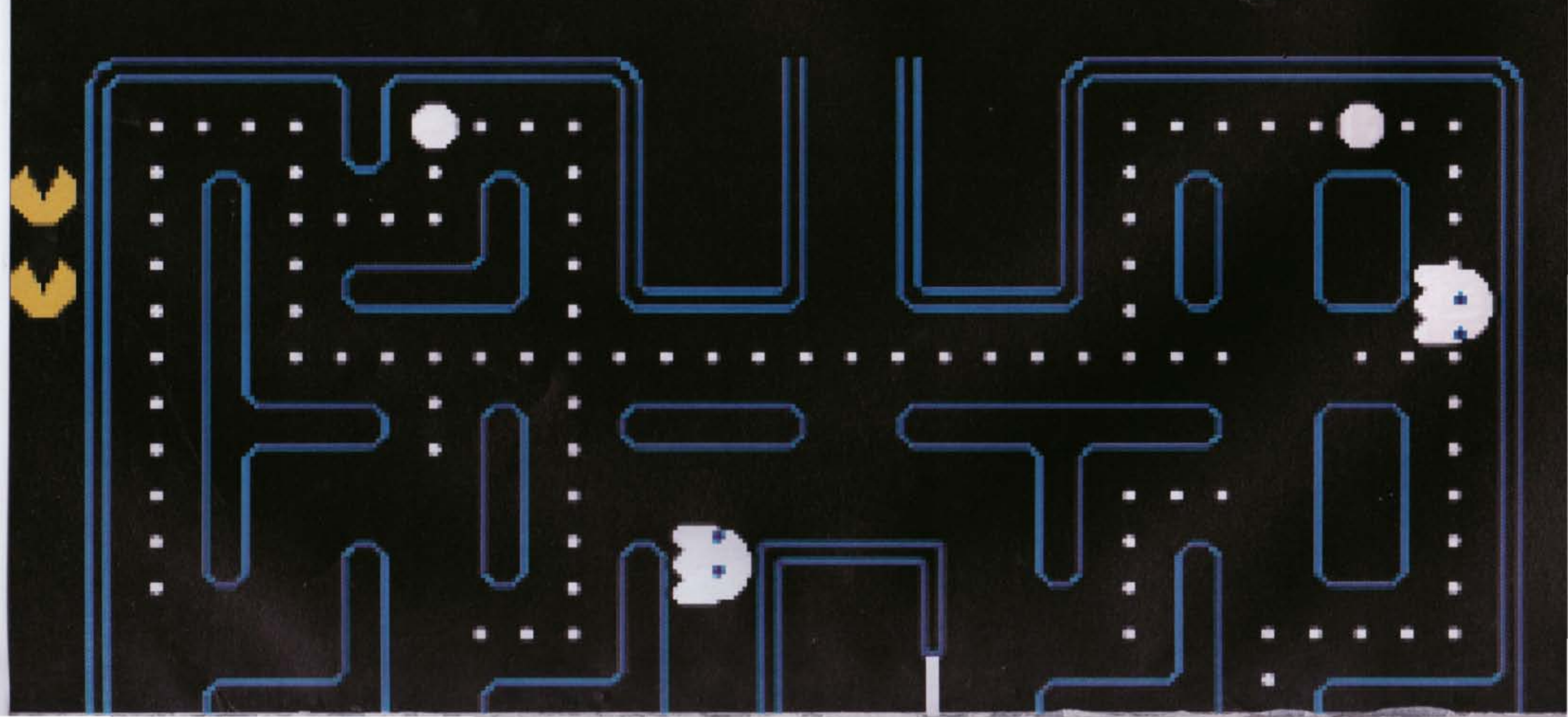


ESP | Children of Dub | [illegible]



Although last year's debut 'Chameleon' pushed back no boundaries, it remains an engaging, crisply structured collection of grooves. Tapping into the same sort of dance and dub sources as Leftfield, it suggested a bright future for the band. But while 'ESP' is an equally engaging affair, the lack of progression does prove a tad disappointing. Tracks such as 'Rhythm Of Life' remain a cut above the trance norm, but opening track 'Fallen Angel' foolishly pilfers the intro melody from FSOL's 'Papua New Guinea', and inevitably suffers in comparison to such a classic track.

A Love resurrection



The forgotten history of the videogames industry

Over the past 20 years the videogame industry has seen some unforgettable landmarks. The Atari VCS. The Sinclair Spectrum. The Commodore 64. It was on these machines the game genres that exist today were tried, tested and fine tuned. In this two-part feature, **Edge** looks at 18 classic home platforms and asks what emulators are contributing toward the upkeep of a rich and important history ▶

1. AMSTRAD CPC

The untimely ugly sister of the 8bit computing scene, the Amstrad came too late into an established market to ever really challenge the dominance of the Spectrum and Commodore 64 in the mid- to late-'80s, despite attractive technical specs, good sales and a high level of software support. It was, however, the first successful machine to carry its software medium (a tape deck or Amstrad's proprietary 3-inch disk drive) onboard as an integral part of the machine's design. The Spectrum +2 soon followed.

STAR GAMES: Very few classic games actually originated on the Amstrad (in fact, **Edge** can't think of any, off-hand), but it did play host to several of the best versions – the CPC port of *Donkey Kong*, for example, remains unrivalled to this day and has only very recently been eclipsed by genuine emulation of the coin-op code (see part 2 of this feature in **Edge** 46 for more details).

EMULATORS: The Amstrad emulator, *CPE*, is an excellent piece of work. It offers full support for sound and graphic modes and runs perfectly happily either in *MS-DOS* or under *Windows*.

WWW:
http://andercheran.aiind.upv.es/~amstrad/







Most Amstrad games were simple ports of Spectrum and C64 successes, but with slightly sharper (than the C64) or more colourful (than the Spectrum) graphics. Still, this made the Amstrad versions of titles such as *Batman* (far left) and *Match Point* the best available

'What experience and history teach is this – that people and governments never have learned anything from history, or acted on principles deduced from it.'

Georg Hegel (1770-1831)

The first question most people ask when confronted with the subject of emulation is: 'Why?'

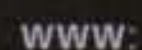
And it's a fair enough question. As the pace of technological advancement continues to accelerate more dramatically with every passing month, what kind of madness must possess those who wish to turn their ultrapowered PlayStation/Saturn/Pentium Pros into tatty old lumps of ancient 8bit hardware with microscopic memory, terrible 8-colour graphics and sound like a goose farting in fog? After all, if, for some insane reason, you want to play ZX81 games instead of PC ones, isn't it an awful lot easier to spend £5 on a ZX81

2. APPLE II/e

The Apple II/e was the first really successful home computer and was instrumental in bringing the concept of personal computer ownership to the US in particular (as well as providing the solid financial foundations so crucial to the launch of the Macintosh). Its success can be gauged by the fact that major arcade games were still being converted for it in the late 1980s, a decade after the machine's inception.

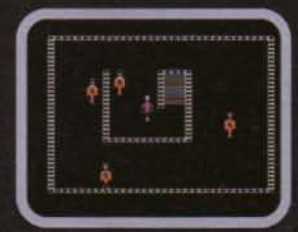
STAR GAMES: Most interestingly, though, the Apple is also where you find the inauspicious debut of *Castle Wolfenstein*, the great-grandfather of *Wolfenstein 3D*, *Doom* and *Quake*. It may be irredeemably ugly, but without *Castle Wolfenstein* (and its sequel, *Beyond Castle Wolfenstein*, also on C64 and Atari), many games available today simply wouldn't exist.

EMULATORS: Several Apple emulators are available, but the best **Edge** has found is *AppleWin*, a *Windows*-native and extremely friendly program which liberates you from the Apple's forbidding interface and lets you get straight into the gaming action without further ado.



WWW:
http://gold.interlog.com/~timf/apple2.html







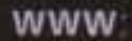


Even relatively recent classics like *Bubble Bobble* (left) were brought to the Apple, on account of the machine's colossal American userbase. But the origins of the first family of modern gaming can also be found here (*Castle Wolfenstein*, centre screenshots)

3. ATARI 2600 VCS

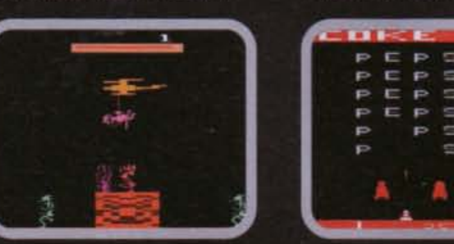
The mother of all game consoles, and one of the world's best-selling things of any kind, the VCS is still on sale, almost 20 years after its launch. For £25 you can go to Argos and pick up a TV Boy, a handheld VCS resembling a Mega Drive joypad which comes with 128 built-in games and plugs straight into the TV.

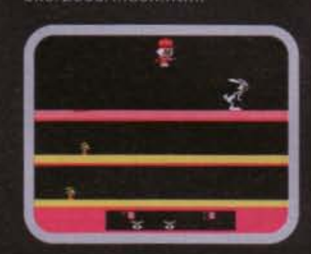
STAR GAMES: Almost the whole of the first generation of videogames can be found here, as can the fledgling games business's hilarious first attempts at 'adult' software in the shapes of *Custer's Revenge* and *Burning Desire*. You can also uncover rarities like *Coke Wins* (a promotional *Space Invaders* clone in which the invaders formed the letters of the word 'Pepsi' and could never reach the bottom of the screen, thus safeguarding the game's title), and *Chase the Chuck Wagon*, a bizarre dogfood-related promo cart which is the most sought-after title on the VCS collector's circuit and fetches in excess of US$150.



EMULATORS: The fastest and most comprehensive of several VCS emus you can get hold of is John Dullea's *PC-Atari*, which plays almost every VCS cartridge available and is now *Windows*-compatible.

WWW:
http://pw2.netcom.com/~itsbroke/2600/index.html





If you've ever yearned to learn about the history of videogame smut (perish the thought), a VCS emulator could be the place to start, offering perfect versions of (from left) *Custer's Revenge* and *Burning Desire*. *Coke Wins* (centre right) was a slightly more mainstream title

than to try to make your brand-new P200 jump through burning hoops to 'pretend' to be one? And isn't emulation a heck of a lot of trouble to go to for a sad nostalgia trip in the first place, when you could just watch 'Top Of The Pops 2' instead?

The answer to both of those questions, of course, is an unreserved 'Yes'. But then, emulation isn't (mostly) actually about nostalgia at all. It's about *history*. There's a subtle difference. Despite being over 20 years old, the videogames industry still takes a very juvenile approach to most things (in common, perhaps, with many 20-year-olds), and this is most apparent when it comes to history. Uniquely in popular culture, the videogame business looks on its past with embarrassment and disdain – the most cursory glance at almost any magazine's approach to reviewing so-called 'retro' games (either cringing apologies for still quite liking *Robotron* even though it doesn't look very nice, or outright 'Look-how-crap-the-graphics-on-*Xevious*-are-ha-ha!' sneering are invariably the order of the day) provides ample evidence of this bizarre tendency.

It would be like seeing Barry Norman on Film '97 loudly and openly deriding, say, *Citizen Kane*, on the grounds that it's black-and-white and there aren't any special effects in it. Or a music press review claiming that the new Celine Dion single is clearly ▶

4. ATARI 5200

The ill-fated successor to Atari's revolutionary VCS was the 5200, which was also known as the Super System. This dubious piece of equipment was essentially an Atari 400 home computer with the keyboard sawn off.

STAR GAMES: The 5200 could hardly be considered one of Atari's greatest successes. Stillborn in the United States and denied even a release in Europe, it didn't really have much of a chance to accumulate an impressive library of software. However, it did carry the full strength of Atari's impressive coin-op roster with it, including some odd cuties like *Kangaroo* and a weird scrolling version of the classic *Space Invaders*.

EMULATORS: The only dedicated emulator available for the 5200 is Dan Boris' *VSS*, a promising effort which recently gained sound support, but Chris Lam's Atari 400/800 emulator *Rainbow 95* now also plays 5200 games (albeit rather slowly), with full sound. (See the Atari 800 entry for more information.)

WWW:
• http://www.geocities.com/SiliconValley/9461/emulate.htm [*VSS*]
• http://www.cityscape.co.uk/users/jx91/emulators.html [*Rainbow 95*]









***Kangaroo* (far left) is one of the strangest ever takes on the platform game, while *5200 Space Invaders* (centre right) introduced a scrolling regiment of aliens and almost totally destroyed the game's eerie ambience. Trad coin-ops were the staple diet of the 5200**

5. ATARI 400/800/XL

Atari's powerful but hideously overpriced 400 and 800 computers played a significant part in the company's downfall in the 1980s, from which it would never fully recover. Trounced in the UK by the Sinclair Spectrum and in the United States by the Commodore 64, the 400/800 series was its own worst enemy, with a fatal reliance on cartridges rather than cassette tapes. Its only achievement was to prove that bloodline and pedigree were no guarantee of continuing success. Sadly, Atari never learned this lesson.

STAR GAMES: The Atari machines were dominated by, unsurprisingly, conversions of Atari's massively successful arcade games of the time. Original stuff did show up (as did numerous ports from the Apple), but the comparatively prohibitive cost of Atari software kept innovation down and formula action games were the order of the day. Still, games which never saw life on other platforms appeared here, including innovative space blaster *Vanguard*, *Jr Pac-Man* (the little-seen third game in the series), a surprisingly good clone of fiendishly hard *Scramble* sequel *Super Cobra*, an early incarnation of firstperson boxing sim *Punch Out!!* and the interesting ▶







Super Cobra **(far left) might look primitive now, but it's very close to the original coin-op, as is *Vanguard* (left). The pace of arcade progress over the last 15 years can be clearly appreciated. Can you remember the name of the fourth ghost in *Jr Pac-Man* (far right)?**

◀ superior to the entire recorded output of The Beatles because the lovable moptops didn't use any state-of-the-art samplers or sequencers or have expensive promo videos. (All of which are obviously better than boring old guitars and harmonies and non-state-of-the-art, old sequencers, because they're newer and more complicated, and anyway, music's all about which instruments you use and how much distortion there is on the snare drum sound rather than the tunes, isn't it?).

The games industry's embarrassment about its own cultural history, and the perpetration of this embarrassment by ill-informed journalists, is all the more puzzling when you realise what a proud history the games business actually has. The 20 years since *Pong* and *Space Invaders* broke the most dramatic new ground in entertainment since the television have seen innovation, imagination, technical achievement, financial success and a rate of progress beyond anything that Nolan Bushnell and the other early pioneers could possibly have imagined. And what the recent boom in emulation represents more than anything else is a grass-roots attempt to redress this absurd imbalance between achievement and recognition. The answer to the question at the start of the article, therefore, is this:

'Because someone's got to.'

6. Commodore 64

It's comforting to know that Commodore was as incompetent in the 1980s as it was in the mid-'90s when it finally collapsed. Despite the company's initial attempts to sell the machine as a serious business computer (ignoring the two joystick ports, brilliant SID sound chip and hardware sprites), the C64 became the undisputed king of home game micros in the US, and the only real competitor to Sinclair's Spectrum in the UK. Such is its popularity that there are programmers toying with it even now – and supposedly achieving next-generation effects like Gouraud shading.

As for software, the C64 had a library that was unrivalled at the time and, with machine lifespans becoming ever shorter and programming becoming less and less accessible to the general public, will probably stay unrivalled forever. Fortunately, a considerable proportion of that software catalogue is already being reverently preserved.

STAR GAMES: It's difficult to know where to start, considering the 15,000 or so C64 games currently archived in various places. But a random initial selection might throw up the genuinely scary *Forbidden Forest*, the groundbreakingly pretty *Alice In Videoland*, the usual clutch of cobwebbed and long- ▶





The C64 boasted a huge software library filled with excellent games. (From left to right) The popular *International Soccer*, *Paradroid* was an excellent shoot 'em up, *Mission Impossible* took the platformer to new visual heights and *Sentinel* remains in a class all of its own

strategy game *Wargames*, which was based on the film of the same name.

EMULATORS: There are three major Atari 8bit emulators: *Xformer*, *XL-It* and *Rainbow 95*. There's very little to choose between the first two (both are very good), and the *MS-DOS* version of *Xformer* has recently been released as freeware (until recently it was a crippled shareware release), so you can try them both for free. Between them, they'll run practically all of the old Atari software.

Rainbow 95 is a *Win95*-only emu which isn't up to the standard of the others yet. The minimum system requirement is a Pentium 100 with DirectX (and it's still very slow at that), and you have to fork out £15 to register it. However, it is undergoing a process of continual development and is improving all the time. It's also more flexible than the other two (it emulates the 5200 console as well as the 400, 800, 800XL and 130XE) and has better sound. Definitely worth keeping an eye on.

WWW:

- http://www.halcyon.com/brasoft/ [*Xformer*]
- http://myst.slcc.edu/~markus/cgi/dl.cgi [*XL-it*]
- http://www.cityscape.co.uk/users/jx91/emulators.html [*Rainbow 95*]









The 8bit Ataris brought gamers a foretaste of the modern software scene – oppressively expensive titles crippled creativity and all but eliminated innovation and risk-taking. Most games were simple arcade material, like *Donkey Kong Jr* (far left) and *Tapper* (far right)

The wider world of culture has already begun to take the matter in hand. The Museum Of The Moving Image has been running an exhibition of games history for several months, and the British Film Institute is assembling an archive of every game and games machine ever manufactured. But the biggest strides in preserving the lineage of today's games for posterity are being made by the authors of emulators. Already, anyone with a moderately fast PC and a few hundred megabytes of hard-drive space can be the curator of their own 20,000-game living museum, containing perfect replications of around 30 old computers and consoles (ie practically all of them), and over 50 coin-op games.

A few gaming jewels that even their authors thought were lost (like the incredible but never-released Spectrum version of *Robotron*) have turned up in the unlikeliest places and been returned to their creators.

And this phenomenon brings us to what is, for **Edge** at least, the most compelling attraction of the emulator scene – the discovery of hidden treasures. Games that were never released in certain territories, never completed, suppressed by legal action or simply forgotten about can all come back to life through emulation. Remember *Dig Dug 2*? *Donkey Kong 3*? Ever play *Prince Of Persia* on the Spectrum? Ever seen ridiculous pornographic games on the ▶

neglected coin-ops (*Solar Fox*, *Juno First*, *Wizard Of Wor*) and the bold first steps of the now-mighty LucasArts, in the striking and unusual form of *Rescue On Fractalus*.

The C64 witnessed many gameplay innovations – most of which have been preserved on emulators. *Sentinel*, for example, introduced a whole new genre and still defies categorisation, whereas *Elite* combined several accepted styles into a vast, totally new form of action adventure.

This was truly the machine of choice for the one-man programming team. Archer MacLean, for instance, created *Drop Zone*, one of the first truly memorable shoot 'em ups not to première in the arcades, and Andrew Braybrook wrote *Paradroid* – perhaps one of the best home computer games ever. Happy days indeed.

EMULATORS: Many C64 emulators are currently available, but the big two are *PC64* and *C64S*. They're both technically sound, but *PC64* is *Windows*-compatible and costs £15 to register, while *C64S* has to be run from *DOS* and costs a rather uncomfortable $60.

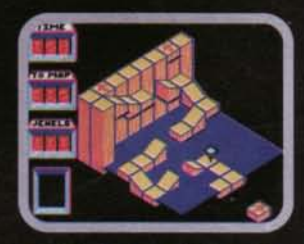
WWW:

- http://www.seattlelab.com/ [*C64S*]
- ftp://ftp.funet.fi/pub/cbm/emulation/pc64 [*PC64*]









Paradroid* was accompanied by other great shoot 'em ups, including *Sanxion* (far left) and *Drop Zone* (centre right), both combining crisp visuals with frantic gameplay. The C64 also saw the best 8bit version of *Elite* (centre left) and the best *Marble Madness* clone, *Spin Dizzy



7. COLECOVISION

The aspirational machine for the first generation of game console owners (the N64 to the Atari VCS's Saturn is a pretty fair analogy), the Colecovision was the first console to boast of 'arcade perfect' games. While this was clearly a claim mostly unsupported by fact, the Coleco was nonetheless undeniably the Rolls Royce of its time, with graphics unmatched by anything else available to the early-'80s game player and the power to attempt games beyond the reach of most other systems.

STAR GAMES: Titles worth a look include offbeat *Pac-Man* clone Ladybug; *Campaign 84* (an American presidential-election strategy game, no less); the then state-of-the-art 3D shoot 'em up *Zaxxon*; Sega's obscure *Space Fury* coin-op; and the 1983 debut of *Artillery Duel*, the primitive twoplayer tank battle later to be revived by Team 17 as *Worms* (which went on to receive a Most Original Game award...).

EMULATORS: Marcel de Kogel's flawless *ColemDOS* operates beautifully via *Windows 95* (despite the name), and ran everything **Edge** could throw at it without breaking sweat.

WWW:
http://www.komkon.org/~dekogel/









***Artillery Duel* (far left) predates *Worms* by over a decade but is exactly the same game minus a few power-ups. Games like *Up'n'Down*, *Zaxxon* and *Ladybug* (centre left to far right) represented the pinnacle of '80s coin-op conversion and were the Coleco's main selling point**

chunky 8-colour screen of the Atari VCS? Well, now you can. But why would you want to?

'The often stated, and equally often derided, notion that old games had better gameplay is, like all clichés, one grounded in a obvious truth,' says specialist in retro games **Stuart Campbell**. 'No one with any sense at all would attempt to deny, for example, that there was, of necessity, a great deal more invention around in the games industry a decade ago. These days, any new game that isn't a racing game, a beat 'em up or a *Doom* clone is something of a revolution. Great game though it quite clearly is, I couldn't bring myself to get the slightest bit excited about *Quake*, for example, for the simple reason that I'd seen it so many times before, only a little bit worse.

'On the other hand, freed from the tiresome business of having new ideas, developers today often execute their old ideas immeasurably better than their predecessors did (even allowing for the spec differences), and the huge technical expanses of possibility opened up by something like the N64 means that when new ideas do crop up, the sky's pretty much the limit, and the old games don't stand a chance in comparison.

'It's completely facile, then, to say either that all old games were better or that all modern games are better. Only an idiot

8. DRAGON 32

A niche machine at the best of times, the huge but mostly-air Dragon (it weighed about the same as a ZX81 but was eight times the size) enjoyed a brief period of success in the early '80s.

STAR GAMES: The Dragon was well served (indeed, all but monopolised) by Cornish publisher Microdeal, which produced a long line of unofficial clones of popular coin-ops. For a long time the Dragon was the only place where you could play decent versions of *Galaga* (*Galagon*), *Crystal Castles* (*Ice Castles*), *Bosconian* (*Draconian*) and *Time Pilot* (*Fury*). There were some great originals too, though, including proto-RPG *The Ring Of Darkness*, lovely maze blaster *Time Bandit*, and the rather less original and highly controversial *Pitfall* rip-off, *Cuthbert In The Jungle*.

EMULATORS: The best Dragon emulator is actually *Coco*, written for the Tandy Colour Computer (a close relative) by Jeff Vavasour. It's excellent, but beware – the speed isn't framelocked to the original machine's, and if you've got anything stronger than a P100, you'll find it hard to slow it down to a manageable level.

WWW:
http://public.logica.com/~burginp/dragon.html









The Dragon was also hampered by a horrendous colour palette, which meant games were invariably mostly green (*Ugh!* – far right) or black-and-white (*Galagon*, centre right). Garish reddish pinks (*Cuthbert In the Jungle*, *Ice Castles*, from left) also played a significant part

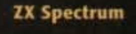
DONKEY KONG WORLD

The one constant found in any journey from the dawn of videogame time to the present day is *Donkey Kong*. The big ape's been around since almost day one and, of course, has never been more popular. Different formats have interpreted him variously...



Apple II/e





ZX Spectrum



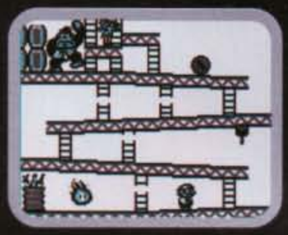
Amstrad CPC464



Commodore 64



Atari VCS



Game Boy



Dragon 32

would attempt such a claim. However, what old games undoubtedly have on their side is that their age gives them a story to tell. It's fascinating to watch things start out years ago and evolve into what they are now, whether those things be developers, programmers or games themselves. Seeing the germs of ideas that became *Super Bomberman* and *Pang* start out on the Spectrum and MSX as *Eric And The Floaters* and *Bubble Buster* is like being present at a birth, and it's a shame the games business is so squeamish about it.'

'I think over the years we've actually lost a lot of gameplay,' adds **Neil Bradley**, author of an excellent emulator for several old vector-graphics coin-ops, including *Asteroids* and *Battle Zone*. 'Players today didn't get a chance to play some of the classics where you actually had to strategise, and there wasn't a set of jump-left-up sequences to memorise for success. Each game was unique – games of today repeat the same two or three formulae over and over again.'

Next month, Edge takes a look at PC emulations of, among other systems, the Spectrum Game Boy and NES, plus the future of game emulators: will Amiga, Atari ST and SNES games ever successfully find their way onto the PC?

BREAKING THE LAW

The laws regarding emulation are slightly confused. It's actually completely legal to write an emulator, but using one muddies the waters somewhat. Naturally, it's illegal to own copies of games, whether on tapes, disks or your PC's hard disk. Nintendo in particular has cracked down hard on Web sites featuring downloadable copies of SNES, NES and Game Boy ROMs, presumably because they can also be used through disk-copying systems to play on the real machines.

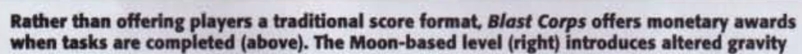
The older machines generally fare rather better – the Oric, Spectrum, Amstrad and Dragon, for example, have had many games officially denoted as public domain by their authors and publishers. And copyright owners for older machines like the Coleco and Atari VCS tend to turn a blind eye, for obvious reasons. (There are a number of exceptions, though, such as a clutch of Coleco games owned by Telegames, which presumably still takes its rights seriously because it still sells retro consoles and software).

Although the matter is still under some debate, it's generally thought legal to play emulated copies of games you legally own. In any case, the people involved in this scene aren't pirates; they're enthusiasts, historians and students. And if the copyright holders of ancient software aren't interested in producing it for the retro market, it would seem pointlessly vindictive and silly to criticise anyone for bringing these old games back from the dead themselves, purely for the fun of it.

Naturally, **Edge** does not condone piracy in any form, which is why this feature does not contain any addresses of Web sites containing actual game images. But as long as you're only looking for copies of your own legitimately owned software, you shouldn't find addresses difficult to come by. Happy hunting...

Blast Corps





Rather than offering players a traditional score format, *Blast Corps* offers monetary awards when tasks are completed (above). The Moon-based level (right) introduces altered gravity

With the world's natural resources of original game ideas fast drying up, it's great to see the Rare/Nintendo axis coming up with something completely fresh. *Blast Corps* stands apart from every other videogame. It's a game without precedent; completely original. And that's one of the main reasons it's so good.

The shakily written plot has it that a nuclear missile carrier is blundering out of control across the world, and will explode if it hits anything. So the player, as a member of the National-Rescue-style Blast Corps team, has to use a range of vehicles to clear a path through the landscape for the carrier. This involves (a) bashing down any buildings that stand in its path, and (b) plugging gaps and holes along the route – a combined process that marks it out as something unlike anything else.

This being a Nintendo 64 game, everything is constructed in sumptuous 3D. Clever use of the camera eliminates the need for prerendered link sequences, swooping over the landscape at the start of missions to set the scene, and, should the worst happen, zooming out to show the world being engulfed by nuclear catastrophe. It's a shame the camera isn't so flexible when you're actually playing, though: the isometric-style view can be rotated and zoomed in and out slightly, but it never quite seems to show as much of the playing area as you'd like, and it would have been nice to have had the option to view the action from the vehicles' driving seats.

The vehicles in question are a varied bunch, and again aren't like anything videogaming has experienced before. There's the basic bulldozer, and then a frustratingly difficult-to-control and ineffective dumper truck, an articulated lorry with two rams that shoot out of the sides, a buggy, a missile-equipped motorbike, some cars (which are purely for transport and timed bonus levels) and three robotic exoskeletons, one of which can fly. Vehicles can also be loaded onto trains and boats for long-distance or over-water travel, and cranes also come into use for moving. While countless games have offered opportunities to drive cars and fly spaceships, never before have players had the chance to play with life-size Tonka toys.

Blast Corps is nail-biting stuff. As each level begins, the missile carrier is heading unstoppably into danger, with klaxons sounding



Bonus levels provide entertaining diversions from the core gameplay





Interestingly, some levels require players to use cranes in order to move vehicles around (above)







With *Blast Corp*, Rare has produced what is perhaps the most visually strong secondparty N64 games to date. The explosion effects (above) – which players get to see a lot of – are beautifully done

and increasingly urgent messages flashing up on the screen. Often you'll be frantically attacking buildings with the carrier just inches behind you, knowing that, if you accidentally clip it with a bumper, that'll spell disaster too.

Most of the missions are simply a case of smashing down longer and longer rows of buildings, and you're increasingly – and goodwill-sappingly – limited to the feebler vehicles to make things harder. But two or three more puzzle-based missions are superbly designed, throwing in red herrings that'll stump you for ages, having you juggling vehicles confusedly and scurrying around the landscape in search of TNT crates. It's here that the carrier's relentless passage is most terrifying of all, as you clear a path almost to the end of a level, with plenty of time to spare, but then can't work out what to do next, and are forced to watch in despair as the carrier trundles towards that one last building you just can't seem to destroy.

But, though it's been polished until you can see your face in it, *Blast Corps* isn't perfect, as can only be discovered after a couple of days' play, when its conclusion is abruptly reached. Certainly, there's still plenty more to do, in the form of some entertaining scientist rescue missions, an extra demolition mission set on the moon, and a plethora of bonus levels. But these are all just the trimmings that are expected of the best Nintendo games. The guts of *Blast Corps*, the missions, run out just a little too soon for comfort. This isn't such a problem in the Japanese and US markets, where – perhaps because of this – the game can be bought for the equivalent of around £40. But if it's released in Europe later this Summer for significantly more, gamers could think twice.

But, even if the *Blast Corps* experience is all over a bit soon, in many ways it's one of the best things to have happened to the N64 so far.

It's a tremendously compelling game that has no equivalent on any other format, with graphics that will be the envy of every PlayStation and Saturn owner.

Another much-needed feather in the N64's rather bald-looking cap, then.

Edge rating:

Eight out of ten





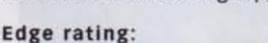






The flying robotic exoskeleton is without doubt one of the game's most entertaining modes of travel

Format: **Nintendo 64**	Publisher: **Nintendo**	
Developer: **Rare**	Price: **¥6,800 (£35)**	Release: **Out now (Japan)**





Moto Racer









Of *Moto Racer*'s eight tracks, Speed Bay (above) is the most aesthetically extravagant, its seaside views providing some of the most memorable sections of the game. Rock Forest (left) is rather more sedate



Hardware acceleration ensures that views such as these are handled with ease. Pop-up still rears its ugly head at some points, though

While quality arcade-style racers have almost been a statutory part of most console owners' diets in recent years, the ubiquitous PC has almost been starved by comparison. In fact, without the hardware-accelerated excesses of Kalisto's *Ultimate Race* and Psygnosis' *F1* (**Edge** 43 and 44) the machine would only have underachievers such as *Fatal Racing* and *Screamer* to call upon. Unfortunately, without dedicated polygon horsepower even the most state-of-the-art Pentiums still lack the power to generate complex environments at a fast and smooth enough rate. And *Moto Racer* is the latest – and possibly the greatest – example to uphold this.

Given that Delphine's reputation has been forged upon a respected catalogue of sophisticated action adventures, its foray into the racing genre comes as a surprise – particularly when *Moto Racer* is possibly the most accomplished effort conceived outside of Sega's and Namco's coin-op R&D departments.

Delphine has developed a game incorporating the best aspects from Sega classics *Super Hang On* and *Enduro Racer* and its game offers eight tracks, alternating between street circuits and off-road courses, combined with the usual time trial, single race and championship modes. The tracks themselves differ substantially from each other, allowing the player to race on dirt circuits, snow-filled mountain trails, through canyons or enchanting countryside.

The action can be viewed through three chase-cam settings or a surprisingly playable and stunning





Players choose from eight bikes displaying different handling and performance characteristics. Once all courses are completed, a mirror mode is activated allowing the player to compete in reverse. One of the game's cleverest touches, however, is its replay mode, which presents the action from some spectacular viewpoints (above)

rider's perspective with convincingly realistic screen vibration. And what initially seems like a gimmick – the ability to pull off spectacular wheelies – soon proves to be a useful feature giving a welcome speed burst similar to *Super Hang On's* turbo control. In off-road races this function also allows stunts to be performed during jumps. Delphine has also included a comprehensive range of great sound effects as well as neat touches such as animated riders and the now obligatory planes and helicopters that seem to permanently occupy the skies of racing games.

Moto Racer is perhaps the best endorsement yet of Microsoft's Direct 3D API, taking advantage of 3D accelerators to stunning effect. And yet it also delivers enough 3D performance without hardware assistance to trounce previous PC racers. For those looking for an experience to embarrass the likes of Saturn *Manx TT* (or any 32bit console racing game for that matter), a fast Pentium with a 3Dfx card will deliver a sustained 30fps frame rate at 640x480, while a click in the options menu will also turn on bilinear filtering for silky smooth N64-style blurry textures. The result is a PC game with blistering speed, smoothness and unrivalled graphical prowess.

Even with such a potent setup there are minor problems, though – mainly when the game's camera has to draw far into the distance and the scenery occasionally blocks in late. However, for the most part this has been cleverly disguised by the design of the courses and it seems clear that Delphine's main objective has been to keep a high frame rate. Even with a screen packed with bikes there is no visible drop in speed, ensuring the circuits are nothing short of an exhilarating white-knuckle ride. Even more impressive is the replay mode which takes the same breathtaking angles as coin-ops like *Daytona* and *Manx TT* while throwing in a few of its own to truly stunning effect.

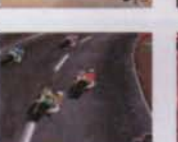
Even with a screen packed with bikes there is no visible drop in speed, ensuring the circuits are nothing short of an exhilarating white-knuckle ride

Overall, *Moto Racer* is an extremely accomplished product and perhaps the best vindication yet of Direct 3D and hardware acceleration as mediums to shed PC gaming of its lumbering, unfashionable image. With its great visuals and supreme playability (not to mention a network mode) Delphine has created a masterly interpretation of Japanese arcade game design and, fortunately, one that doesn't take itself too seriously. After all, what other PC game allows you to hurtle along the Great Wall of China?

Edge rating:

Eight out of ten









***Moto Racer's* stunning replay mode. Two wheels are most definitely more fun than four...**

Format: **PC**	Publisher: **Electronic Arts**	
Developer: **Delphine**	Price: **£40**	Release: **Out now**



Interstate '76

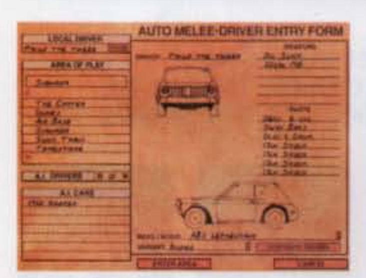








The Melee mode offers a vast array of vehicles – although it must be noted that some aren't especially well suited to performing some of the game's more daring manoeuvres (main). Cut-scene graphics use a basic style in order to maintain a smooth transition with the in-game visuals (above)





Attention to detail is stunning throughout, as this menu screen (top) and in-game map demonstrate





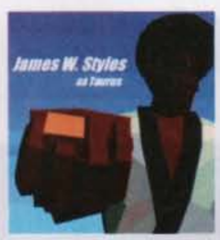
The in-car view allows the player to look left and right – an essential option when unleashing Groove's .45 calibre pistol on enemy vehicles

Those still firmly subscribing to the notion that wide lapels and monstrous sideburns remain image-strengthening icons will undoubtedly find Activision's first-person 3D combat simulation comforting. Indeed, although the game is set in an alternate 1970s dominated by violence, crime and corruption, *Interstate '76* delivers the clothing, hairstyles and – more amusing still – the expressions of the time.

The plot borrows heavily from movies such as 'Deathrace 2000' and the 'Mad Max' trilogy: fuel is scarce and cars carry substantial weaponry as standard. Terrorists, led by mercenary Antonio Malochio, intend to play havoc with America's already weak economy by destroying the largest oil reserve in Texas. As Groove Champion, whose sister Jade has been shot by Malochio, the player must travel the vast expanse of the American southwest fighting to cease terrorist activity and avenge Jade's death.

The game offers two modes of play. The oneplayer option offers a 17-mission, narrative-driven adventure, while the Melee mode sees players either entering an immediate combat mode featuring eightplayer link-up play and a choice of more than 20 vehicles, or electing to play one of a series of single missions. These resemble those found in the oneplayer game and involve such scenarios as having to locate and destroy an ammunition lorry before it reaches the terrorist depot; saving a town; or escorting a school bus to safety – the latter revealing the game's dark streak of humour if not accomplished successfully.





Activision has researched the game excellently, providing a rich atmosphere. The voice of Taurus, Groove's cohort, is very Samuel Jackson





Typically, a range of views are available, from external to dashboard. The mode offering a crosshair sight (right) makes picking off enemies much easier (even during night scenarios)

The oneplayer missions themselves differ enough from each other to provide variety to what could otherwise have been endless combat missions in the desert. Buildings have to be destroyed, petrol stations must be protected, road blocks and colossal jumps across canyons negotiated. Even in levels involving a simple drive to a meeting point, a strict time limit guarantees a sense of urgency.

At the end of each mission, weapons and upgrades can be salvaged from enemies' vehicles. Heavy artillery such as rockets, cannons, grenade launchers and flame throwers can be used to enhance fire power. Should these fail, Groove also fires a .45 calibre gun from inside the car for close combat. In addition, bigger engines, better suspension and larger tyres allow faster, more stable progression.

Compared to the likes of *Moto Racer* (see page 78) *I76*'s lack of 3D acceleration is conspicuous by its absence (a Direct3D patch should be ready soon, however). Vehicle detail is impressively realistic, though, with damage inflicted on enemy cars during battle becoming instantly visible – a very satisfying feature. Being able to shoot enemies' headlights during night missions adds to the realism, as does the way cars handle differently depending on terrain, upgrade modifications and amount of damage sustained.

Interstate '76 doesn't disappoint sonically, either. An enjoyable assortment of classic funk fittingly complements the relentless action ensuring the game captures the feel of the '70s with aplomb. The plot sequences are filmic, carrying the action along between missions as well as revealing plot twists.

The only criticism would lie with the game's linear structure, lessening the desire to return to it once it's been conquered. However, its difficulty curve is well judged, and the Melee option further extends the game's lifespan.

While it lasts, then, *Interstate '76* is an exciting and thoroughly involving experience.



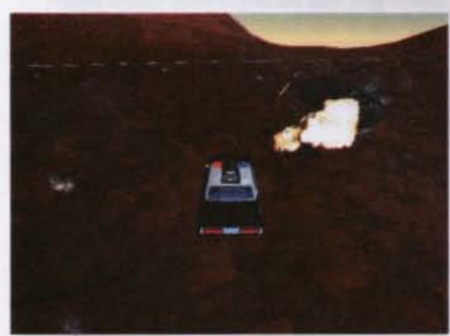
Edge rating:

Eight out of ten



Night play is particularly effective – players must take care to protect headlights, which can be shot out







Handling proves slightly troublesome at first, and most players will opt for the arcade-style external cam to ease them into the action. Rocket launchers are among the best weapons (main)

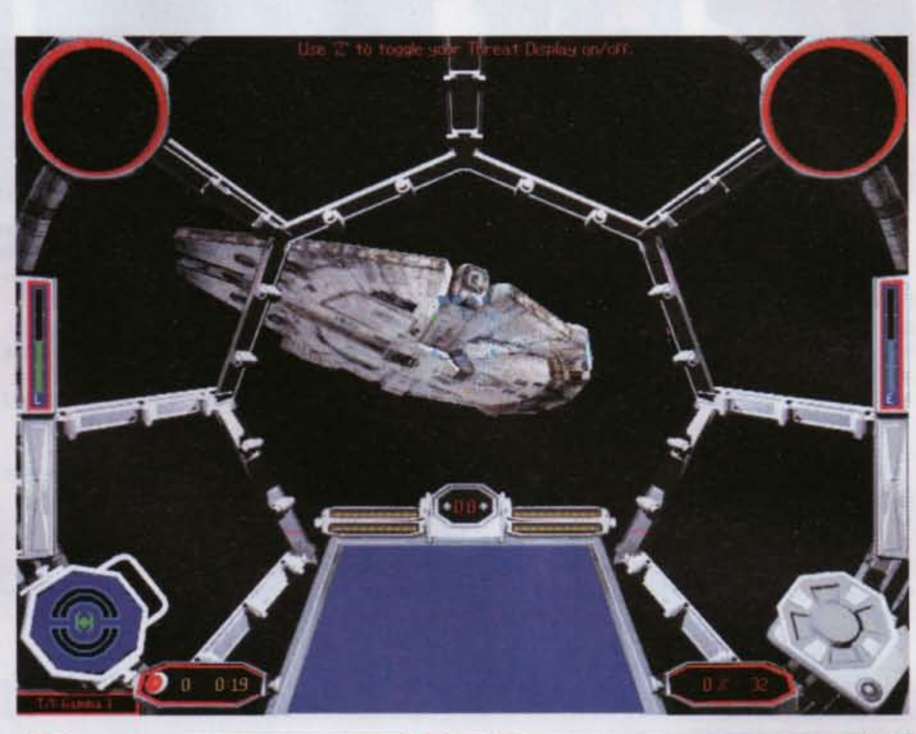
Format: **PC**	Publisher: **Activision**	
Developer: **In-house**	Price: **£45**	Release: **Out now**

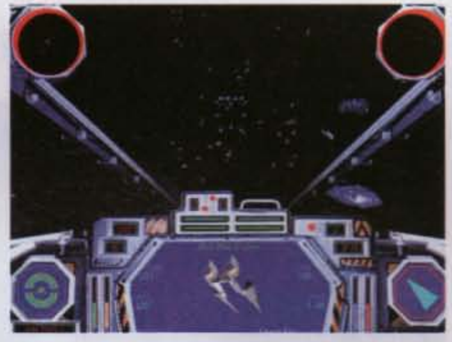
X-Wing vs TIE Fighter





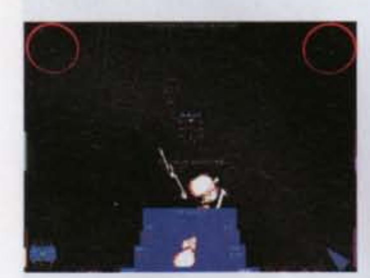
Finely textured, team-liveried Assault Gunboats wheel through the spinning debris of an multiplayer asteroid arena







This latest addition to the Lucas line-up features some stunningly realistic ships, courtesy of an 800x600 SVGA mode and powered-up 3D engine yielding more polygons for the models and enhanced textures





Fly for the Empire in TIE Bombers, Interceptors and Gunboats, or join the Rebellion in A-, Y- and X-Wings

LucasArts has finally listened to its legions of fans and developed a multiplayer version of its *X-Wing* and *TIE Fighter* games. But what's on offer for the PC owner without a network?

Face facts. It's practically impossible for LucasArts to fail with a game like *X-Wing vs TIE Fighter*. All the design team had to do was take the extremely successful *X-Wing* game, revamp the graphics (by adding Gouraud shading, texture mapping, dynamic lighting effects and so on), bolt on the critically-lauded *TIE Fighter* (its visuals also suitably beefed up), and give slavering gameplayers the one thing that they've always wanted: a multiplayer option. Good as the original *X-Wing* and *TIE Fighter* were, they lacked the option to fly squadrons of Y-Wings and X-Wings against wings of TIE Fighters, bulbous TIE Bombers and Assault Gunboats in the ultimate interstellar deathmatch. With the long-awaited Special Edition re-release of 'Star Wars', 'The Empire Strikes Back' and 'Return Of The Jedi', to propel 'Star Wars' fever even higher, LucasArts shouldn't be surprised when sales of this stunning hybrid soar rocket-like through the roof.

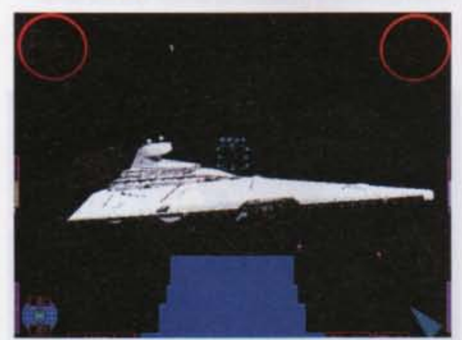
Although the intro sequence isn't as impressive as it could have been, *X-Wing vs TIE Fighter* screams excellence from every quarter. LucasArts makes no bones about the fact that it has been designed as a multiplayer game right from the start, a deep-space free-for-all where it's kill or be killed, every rebel/stormtrooper for themselves. As such – and it's better to get this criticism out of the way now – *X-Wing vs TIE Fighter* isn't an impressive oneplayer game. Although it features 15 new and original sorties (which you can fly as either the Rebels or the Empire), the game contains significantly fewer missions than

the *X-Wing* Collector's CD or its *TIE Fighter* equivalent. Owners of single machines beware: beneath the sumptuous visuals and the alluring 'Star Wars' universe, there's not much of a game for the loner.

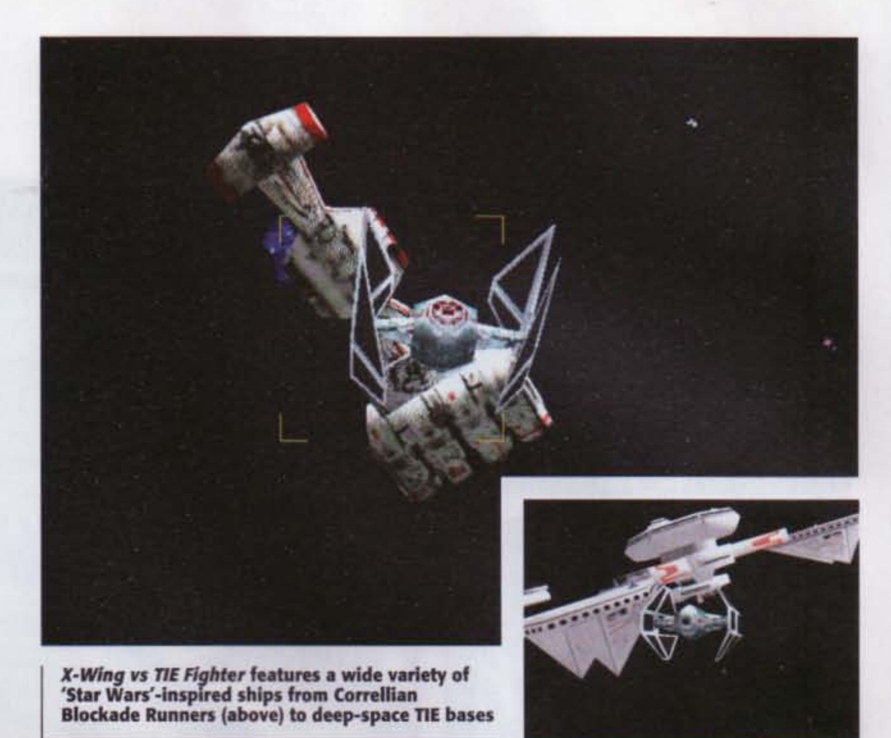
Technically, this game is a masterpiece – graphically mouthwatering and aurally spectacular. But when it's played in any of the five multiplayer modes, up to eight players can play over a network (two over a modem), with the ability to group into squadrons, attacking computer-controlled Imperial convoys, or splitting up to attack/defend hollowed-out asteroid hangars. Naturally, all of this movie-inspired action is realised with truly dazzling 3D graphics which, in turn, sit on top of an updated flight engine that uses dramatic realtime lightsourcing, shadowing and texture-mapped models to create more realistic special effects and spacecraft. The game is also playable in a variety of resolutions, from bog-standard VGA to crisp 640x480 SVGA and crystal clear 800x600.

New for *X-Wing vs TIE Fighter* is the craft database, an interactive sales catalogue that features all the vehicles in the game. Of the 50 or so craft, players can jump into and fly only nine. For the Rebellion, the choice includes the traditional X-, Y-, A-Wings, as well as a new rides in the shape of the Z-95 Headhunter. As for the Empire, the TIE family again opposes the manoeuvrable Rebel ships, with the heavily armed Assault Gunboat making up the numbers. Other new craft, of which there are also more than a dozen, include the T-Wing, the R-41 Starchaser, the Millennium Falcon, some new Star Destroyers, tugs, lifters and transport shuttles. Seven different types of mine have been introduced to scuttle the unwary pilot, while bulk cargo carriers haul a plethora of containers that are just waiting to be plundered.





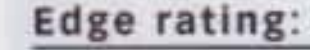
Some of the 3D models, such as this Imperial Star Destroyer, are near breathtaking in scale



***X-Wing vs TIE Fighter* features a wide variety of 'Star Wars'-inspired ships from Correllian Blockade Runners (above) to deep-space TIE bases**

Of the five different types of multiplayer play, the Exercise mode constitutes a training camp, enabling pilots to familiarise themselves with everything from basic gunnery to the use of Proton Torpedoes and wingmen. In Melee, frantic deathmatch dogfights can be set up so players can fight co-operatively or against each other in open space arenas or mine-laden asteroid fields. Third up is the Tournament option, where each pilot faces every other pilot in a best-of-three contest. Combat mode engagements are single missions with predefined objectives (for example, escort a supply convoy, attack an Imperial staging post), while the Battles section links together the single combat sorties in one leviathan, warring lump. It's simple, yet flawlessly beautiful stuff.

Unsurprisingly, gameplay remains relatively unchanged. The rebel and Imperial craft have familiar cockpit layouts and control systems, and there's a handy facility that enables dead players to skip to a new ship to continue the fight. With a CD-quality soundtrack spewing stirring 'Star Wars' marches through the PC's speakers, digitised dialogue and real people to fly against – people who don't conform to regular tactics and predictable patterns – *X-Wing vs TIE Fighter* is an awesome multiplayer experience. No longer do 'Star Wars' fans have to imagine teaming up to foolishly attack a Star Destroyer, or wish that they could play four-on-four, *X-Wings* against *TIE* Advanced, complete with computer-controlled wingmen. *X-Wing vs TIE Fighter* is a simple, fantastically designed game that gives space simulator veterans what they've been asking for on the Internet since the original was released. This is a gaming experience of a quality almost on a par with the seminal movies.



Edge rating:

Nine out of ten





The Craft Database allows players to view the nuts-and-bolts of every ship, mine and cargo container

Format: **PC**	Publisher: **LucasArts**	
Developer: **In-house**	Price: **£45**	Release: **Out now**

Terracide







Clockwise from top left: Approaching one of the huge alien space craft, the HUD shows the way to the entrance; get in closer and it's actually possible to see the interior of the ship; finally, the player makes it inside, the smooth transition between two types of varied game location complete

With *Pod*, UbiSoft attempted to capture the zeitgeist, wading in with a game that not only supported the new-fangled MMX instruction set, but also powered along under the steam of 3D accelerator technology. Instead it's

Terracide is billed as a real next generation PC title. But, while the gameplay is fairly well judged, it lacks the refinements or innovations to make it a real killer app

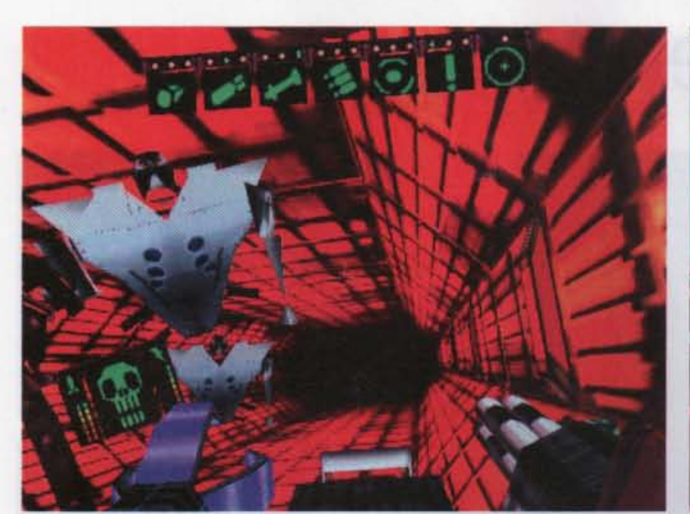
Terracide which offers a tantalising glimpse of what might be. For, while it shuns dedicated card drivers in favour of an 'everyman' Direct3D route, the game's determination to make use of key card features ensures that it sets a respectable benchmark for the inevitable wave of accelerated games to aim for.

In the world of *Terracide*, filtering, alpha blends and colour light effects are the norm – with the right hardware, of course. The game will run unassisted, but though the frame rate is acceptable (a variety of resolutions are offered, as well as MMX support), things do look drab. But played with the right hardware (3Dfx delivering the best experience) the combination of fluid motion and high-gloss detail is something to behold – the explosions and laser effects making full use of any transparency and translucency effects available. A tendency to over-use the same texture does leave some areas of the game looking a touch bland, but it's almost forgivable given the visual





The video recording camera affords an excellent view of the spectacular lighting effects created by gunshots (left). The novel gravity bomb (right) sucks in any floating objects – including players





The ambient lighting effects make up for texture repetition. It's possible to launch flares to illuminate the way in darkened areas (left). More attractive lighting effects (right), once again made possible by 3D accelerator technology (these screenshots represent the 3Dfx-powered version)

richness of the action taking place in these claustrophobic arenas. In *Terracide* the explosions are paramount, knocking the player off course when caught in the blast, and loosening desirable weaponry in the multiplayer modes.

Descent comparisons are inevitable, of course. Both games share the format of sending the player to infiltrate enemy interiors, and once again the complexities of inertia, weightlessness and six degrees of motion all add to the challenge. Fans also play a large part in the level designs, and a gravity bomb is even available for use – Simis obviously has an appreciation of the subtleties offered by real-world physics. But while *Descent* is primarily a game of exploration, *Terracide* emphasises the interplay between player and enemy. The game environments are complex and boast numerous set-pieces, but lack sense of identity. It's the difference between an immersive gameworld and one that always feels like the work of some level designer.

Of course, *Terracide* also boasts exterior scenes, where the player gets to duke it out with fast-moving fighters before entering the huge ships that form the core of the game. These scenes should have been the game's crowning glory, the open spaces providing ample opportunity for realistic detail and lighting effects. A look at EA's *Darklight Conflict* shows how well this sort of thing can be done. Instead, the space sections are dull, the sense of movement almost non-existent and the enemy craft moving too fast and without real strategy. The result is a tedious duckshoot.

Thankfully, interior sections are far more dynamic, the enclosed spaces working to make manoeuvring that bit harder and opening up a wealth of strategies for hiding, attacking and retreating. It's perhaps this element which mirrors *Descent* more than anything, though the ability to switch on auto-levelling can make things different. Multiplayer mode is better yet, the complex control system creating a level playing field for combatants to work up from. Purpose-designed levels have been implemented, and the ability to blast off then steal weapons from opponents is a simple but effective way of upping the fun factor as well as ensuring that no one player gets too powerful.

The only real problem here is that *Terracide* looks like, and is billed as, a real next generation PC title. But, while the gameplay is fairly well judged, it lacks the necessary refinements or innovations to make it a true killer app. Doubts linger about the control system's lack of precision, the all-too-familiar enemy styles, and those dodgy exterior sections. *Terracide* represents another excellent PC technology showcase, but its playability can't help but be a little eclipsed by those marvellous visuals.

Edge rating:

Seven out of ten



Exterior dogfights are made difficult by the speed of enemy fighter craft



One of the more impressive enemies. While they never match the shock value offered by those of *Quake*, they're far superior to the abstract shapes found in the *Descent* series

Format: **PC**	Publisher: **Eidos**	
Developer: **Simis**	Price: **£40**	Release: **Out now**

Bushido Blade

Even when players become proficient with particular weapons, success rates are only slightly higher than novices producing unexpected but effective 'instant wins' through pad-bashing

Training with wooden *boken* (top); climbing to higher ground (middle); a fatal *nodachi* slice fells bamboo and opponent in one (bottom)







Spear combat needs space; weapons can easily 'snag' in narrow corridors

Cruel authenticity is the driving force behind *Bushido Blade*: energy bars are gone, a successful strike being able to maim or kill outright. Instead of lengthy wearying exchanges, most matches last scant moments. But how much long-term appeal can it truly claim to possess when one lucky press of a button can succeed over practiced expertise?

In its favour, Square's approach has nurtured a hotbed of innovation. The traditional stage backdrop is replaced with a sprawling 3D castle in which the player is free to roam, perhaps retreating to more advantageous terrain. Traditional moves and stances must be learnt for each weapon, your choice of character merely determining the strength and speed of attack. Because it's designed specifically for the PlayStation, joypads are exploited more thoughtfully than in conversions like *Soul Edge*. And a personal challenge rests in abiding by the concept of Bushido honour, granting suicidal submission for wounded warriors while avoiding such dirty tactics as throwing sand in an opponents' eyes.

Enchanting as it all sounds, the major criticism is that there's simply not enough defensive play to ward off those killing blows. Armchair critics might argue against the 'fantasy' of games in which raising crossed wrists is enough to deflect axes and fireballs, but the added depth of being able to gauge remaining health and provoke weak attacks in exchange for stronger ones has established such classics as *SFII*. *Bushido Blade*'s realist style can hardly be described as a remedy in this instance, and ultimately prompts a cry of Emperor's New Clothes.

Bushido Blade's splendid sense of atmosphere does engender curious, initially compulsive playing. It also contains myriad worthy ideas that will hopefully contribute to future titles. In sidestepping ten years of genre evolution, however, it finds itself in a fascinating cul-de-sac rather than revealing new horizons. This homage to traditional kendo mastery highlights the difference between game and simulation; its refusal to balance realism against the desire for fair and rewarding playability proves to be its undoing.

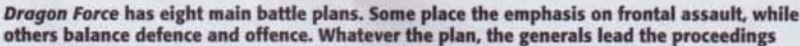
Edge rating:

Six out of ten

Format: **PlayStation**	Publisher: **SquareSoft**	
Developer: **Lightweight**	Price: **¥5,800 (£30)**	Release: **Out now (Japan)**

Dragon Force





***Dragon Force* has eight main battle plans. Some place the emphasis on frontal assault, while others balance defence and offence. Whatever the plan, the generals lead the proceedings**

Sega goes some way towards clipping the thorns of the strategy rose with *Dragon Force*, creating a simplistic, yet engrossing, wargame. It offers a choice of nation as a starting point, which influences plot progression and game flow, and a choice of character. Opting for the obligatory fair-haired hero, Wein, leads to alliances with other nations and a host of sub-plots, while selecting the despot,

> ***Dragon Force* is unusual. It subscribes to many gameplay gospels, making for a varied experience, but its greatest aspect is its accessibility**

Goldark, pits every opposing monarch against you, but with some benefits which balance the proceedings. Geographical nuances have a part to play, too; with a land comprising several independent nations, Topaz is beset by enemies in its central position while Tristan has the advantage of ocean on three threat-free borders. Highland is the obvious choice for many, its good positioning only marred by the selection of leader Wein and the righteous gibber that entails.

DF's many conflicts are, in essence, an adaptation of the Paper, Scissors, Stone game. Cavalry are effective against troops, but struggle with harpies; mages triumph over zombies but are easy meat for soldier's swords; dragons are all-conquering except against Samurai. *DF* would be lacking were this basis the sole crux of a battle, but the addition of strategies and the positioning of opposing generals complicates proceedings to a challenging degree.

There are eight main battle plans and troops are almost secondary concerns during these encounters. With enemy generals capable of slaying 20 to 30 basic soldiers according to their energy bars and magic attacks, *DF's* Combat Mode looks as much inspired by the RPG standard as its storyline is.

Quirky titles such as *DF* may not sell excessively in the UK and Europe, but as format exclusives they can turn the heads of dedicated game players. *DF* is unusual. It subscribes to many gameplay gospels, making for a varied experience, but its greatest aspect is its accessibility. Players can dip into a scenario without complex statistics to catch up on before they can re-immerse themselves. Another credit is its size: with several nations to play as, each with its own story, *DF* offers value for money, even as an import game – as it will remain until late Autumn. Its sizeable RPG leanings may not appeal to all, but budding Smaugs will find *Dragon Force* hobbit forming.



Conversions expert Working Designs produced this English-language version



Edge rating:

Eight out of ten

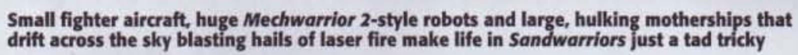
Format: **Saturn**	Publisher: **Sega**	
Developer: **In-house**	Price: **$50 (£30)**	Release: **Out now (US)**

Sandwarriors









Small fighter aircraft, huge *Mechwarrior 2*-style robots and large, hulking motherships that drift across the sky blasting hails of laser fire make life in *Sandwarriors* just a tad tricky

A melting pot of various computer and media influences, Gremlin's *Sandwarriors* seems to offer nothing new or startlingly original. Its plot – two ancient families vying for global supremacy on a bleak, deserted planet – could have been lifted straight out of *Dune*, while the Egyptian look that dominates the game's visual style is the same sort of quasi-mystical hokum that Kurt Russell saw when he stepped through the rippling wormhole in 'Stargate'. But to quest for blinding originality and fresh ideas in this blasterama is to miss the point of the game. *Sandwarriors* is reminiscent of *Terminal Velocity*, *Inferno*, *Defender* and *Descent*, and seems to feature chunks of each in its design. But this fast-paced, 3D shoot 'em up is addictive and enjoyable, with an entertainingly challenging learning curve.

Set in the year 6225 BC, somewhere far across the the galaxy, war rages on the dustbowl planet of Tawy between the Horus Empire of the south and the dark Empire of Set to the north. As a member of the military elite, Horus pilots live to annihilate the legions of House Set, to fly the great sandships in a leviathan war to regain the Sun Throne. In game terms this translates to 30 different offensive missions, each one with multiple objectives. Although players begin with a basic craft, successfully completing missions means that bigger and better weaponry is introduced, from the chaingun and the missile launcher to tactical nuclear warheads of city-smashing ferocity.

But what makes *Sandwarriors* interesting is the fact that each mission in the game has a freeform structure, enabling the player to deviate from the primary goal at any time. For example, instead of directly defending a sieged city, it's possible to destroy the enemy's radar stations in order to disrupt its communications, or to attack its airfields to whittle away the air cover. Success in *Sandwarriors* isn't just about having fast reflexes and a strong trigger finger, it's about tactical planning. The game serves up a whole 3D world to explore: fighters wheel across the bleak desert landscape; day becomes night; huge star cruisers drift lazily across the skies; battle tanks take up fortified positions in city streets, while huge *Mechwarrior*-style robots relentlessly attack, unfazed by volleys of laser fire. The scope and sweep of the game is vast and its attention to detail impressive.

While it lacks originality, *Sandwarriors* presents an evolving, mission-based war on a truly epic scale. It boasts more than 20 different ships and ground vehicles, not to mention a mammoth playing area that features cities, bridges, temples, silos and shipyards. Sorties can even be flown with squadrons of wingmen (when the player has progressed up through the ranks) as the battle rages in the air, on the ground, and in subterranean caverns. Last, and most importantly, the game is a swine to master. The House of Set is difficult to beat and tactical planning is often scuppered by overwhelming numbers of enemy aircraft.

All in all, *Sandwarriors* is a fine game, a fly-and-fight spectacular of commendable depth.

Just don't expect an easy ride...

Edge rating:

Seven out of ten





With a versatile 3D engine that enables players to fly into tunnels and across spectacular landscapes, *Sandwarriors* is a strange mix of *Terminal Velocity* and *Defender*

EDGE			
Format: **PC**	Publisher: **Gremlin Interactive**		
Developer: **In-house**	Price: **£40**	Release: **Out now**	

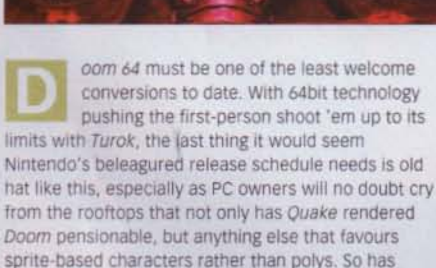
Doom 64











***Doom 64* relies on an addictive gameplay recipe created some three years ago, and though hardly pushing the Nintendo hardware, it does provide a first-class oneplayer experience, as well as a trip down memory lane for veterans of the series**



Perhaps the only serious problem with *Doom 64* is that the original was conceived so far in advance of the technology. It's not possible to look up or down, nor can the player jump, which simplifies the experience in comparison to the likes of *Quake*

Doom 64 must be one of the least welcome conversions to date. With 64bit technology pushing the first-person shoot 'em up to its limits with *Turok*, the last thing it would seem Nintendo's beleagured release schedule needs is old hat like this, especially as PC owners will no doubt cry from the rooftops that not only has *Quake* rendered *Doom* pensionable, but anything else that favours sprite-based characters rather than polys. So has *Doom 64* already passed its sell-by date?

Emphatically, no.

Admittedly, the first level reeks of déjà vu. Jerky sprites amble around the corridors, oblivious to the player until plugged in the back with a shotgun shell. Eerie noises echo from distant rooms and, despite the analogue controller, those who've mastered the PlayStation version will be discarding that in favour of the joypad within seconds to help with dodging manoeuvres. All is as expected, until something completely unexpected happens: *Doom* wakes up.

By level two, the pulse begins to quicken. Midway has done an excellent job with level design and, surprisingly, has elected to use a different style to the original. Id Software's mix of open-plan corridors and cavernous rooms has been replaced with tight corridors, mazes and claustrophobic antechambers that leave plenty of opportunities for ambushes, secret areas and, of course, getting completely lost. This change has probably come about because of the omission of a twoplayer deathmatch mode – which would have required more open levels to provide the space for running battles and firefights – and the resultant configuration works brilliantly.

Doom was always a strong multiplayer experience, and the omission of a deathmatch mode here hampers the overall package. However, *Doom's* heart lay in the solo game: a tense, difficult, and very often frightening bid for survival. Thankfully, that essence has survived, and if anything, the fear factor has been ramped up considerably by a superior soundtrack and the host of dark, cramped, interiors.

Though graphically the game is no great leap, the filtered textures, larger sprites and animated environment set it apart from its Sony incarnation, and though it's debatable how much more *Doom* has to offer maze-weary gamers, this 64bit version proves once again that it can never be written off completely.

Edge would certainly be surprised if there's not an M2 version already in the pipeline...

Edge rating:

Seven out of ten

EDGE	Format: **N64**	Publisher: **Midway**	
	Developer: **In-house**	Price: **$70 (£40)**	Release: **Out now (US)**

Xevious 3D/G+







3D/G uses smooth polygons but lacks detailed textures

Namco's latest PlayStation release is not only an accurate conversion but also serves as a perfect homage to the series. As well as *Xevious 3D/G*, the package contains the original *Xevious*, *Super Xevious* and *Xevious Arrangement*. Only the first 3D title in the series, the five-year-old *Solvalou*, fails to make an appearance.

Naturally the polygon-enhanced game is of most interest and in terms of design and style has much in common with Taito's recent *Raystorm*. However, while the Taito game gives the PlayStation's texturing abilities a thorough work-out, Namco's release sacrifices the state of the art and relies upon plain- and flat-shaded environments to capture some of the original's eerie, retro-styled atmosphere. Sadly, it's a decision that seems to have backfired slightly.

Playability here is a touch tighter than in *Raystorm*, though. Whereas Taito's game simply required the player to hold down the fire button and gawp at the graphics, *3D/G+* retains the simple play mechanics forged by Namco 14 years ago, and it just about works. Ultimately, though, it's a shame that what impresses most about this polygon 3D shoot 'em up is its music – superb retro-sounding coin-op tunes given a trancey makeover (and even mixing in the twinkling ditty from the original game). Fans of bleeps and beats will love it.



Xevious Arrangement, from Namco's *Arcade Classics* coin-op, is a tweaked and souped-up version of the basic game

Edge rating:

Seven out of ten

Format: **PlayStation**	
Publisher: **Namco**	Developer: **In-house**
Price: **¥5,800 (£30)**	Release: **Out now (Japan)**

Speedster

Though the racing-game genre has presented some of the most memorable console games of the '90s, it cannot be denied that it has become tired, with few titles willing to attempt to break free of the mould set by the likes of *Ridge Racer*.

It's refreshing, therefore, to see some developers making an effort to introduce new elements to breath fresh life into the beleagured genre.

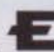
Speedster attempts this by opting for an adjustable chase-cam view rather than the more traditional first-person or top-down perspectives.

The usual racing modes are still in place, however, with eight vehicles and eight tracks to choose from.

Graphically, *Speedster* does not disappoint. Its courses are well rendered and the inclusion of touches such as sparks projected from vehicles after jumps or when colliding with walls add a certain amount of appeal to much for the game's aesthetic content. Sadly, however, the twoplayer mode proves to be playable only from a zoomed-out view, obscuring most of the game's visual detail.

Ironically, the game's chief problem is its lack of speed – there is little sensation of movement as the cars dawdle around the tracks, and the acceleration response would be more at home with tractors than sports cars tuned for racing.

Despite its differences, then, there is little here to elevate *Speedster* above its competitors.



Edge rating:

Six out of ten







Speedster's clever graphical approach is its chief asset

Format: **PlayStation**	
Publisher: **Psygnosis**	Developer: **Clockwork**
Price: **£45**	Release: **Out now**



Testscreen round-up

Mechwarrior 2

PlayStation

Publisher	Activision
Release	Out now
Price	£40

Trying to take a super-complex, big robot combat-cum-strategy game and turn into something vaguely playable on Sony's console isn't easy. And yet, amazingly, Activision has not only managed it with *Mechwarrior 2*, but it's managed to pull it off with great aplomb. The result is one of the best PC conversions yet seen on Sony';s machine.

Instead of electing to deliver the easy option, a straight port, Activision has transformed the game entirely, stripping out the (very few) dull bits from the original and adding what simply amounts to a large dose of fun. Hence the appearance of more types of weaponry and power-ups, plus a level of action that borders on being non-stop.

The result is an unmissable PlayStation 3D shoot 'em up that deserves to do a lot better than it probably will in a market more commonly associated with driving and fighting titles.

Edge rating:

Eight out of ten



Spider

PlayStation

Publisher	BMG Interactive
Release	Out now
Price	£40

Considering the wealth of talent at Seattle-based Boss Game Studios (see **E**44), the company's debut game comes as something of a disappointment.

Spider's novel premise (the player controls a bionic arachnid) gave it the opportunity to stand out among the wealth of PlayStation platform games, but has ended up being buried beneath a substandard format that's neither as stylish as *Pandemonium* nor as visually captivating as *Crash Bandicoot*.

As another 'two-and-a-half-dimension' game, *Spider* suffers from a linear, flat feel, and there's little more to do than fight through 24 rather action-starved stages, grabbing power-ups in the form of bionic legs along the way.

Add to this a weak level of difficulty (players should be able to see most of the game within a day), and *Spider* is left with little to make it stand out. (Nice cut-scenes, though.)

Edge rating:

Five out of ten



Human Grand Prix

N64

Publisher	Human
Release	Out now (Japan)
Price	¥9,800 (£

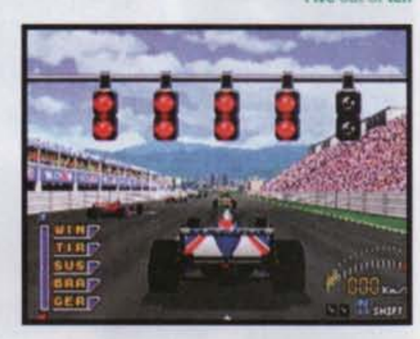
With Pysgnosis' *F1* setting a high benchmark, subsequent console Formula 1 games were always going to have a tough act to follow. Unfortunately for the N64, in technical terms at least, *Human Grand Prix* is a significant disappointment.

The game mirrors the 1996 Grand Prix season. Unfortunately, it's apparent from the first race that N64 architecture alone does not eliminate the major curse of 3D racing games: pop-up. Racing along the straights, objects on the horizon are built barely 200 yards ahead, with some large objects appearing when you're almost on top of them.

The structure and comprehensivity of the game is laudable, however, and on the face of it, it should be as much interest to F1 diehards as to racing game fans in general. However, as the first racing game since the execrable *Cruis'n USA*, *Human Grand Prix* is another shaky step for the N64.

Edge rating:

Five out of ten



Doraemon

N64

Publisher	Epoch
Release	Out now (Japan)
Price	¥9,800 (£50)

Doraemon may well be the most popular children's character in Japan but his videogame projects haven't always met with such success.

With a string of *Mario*-esque platformers to his credit it was predictable that the atomic cat's first foray onto the N64 would attempt to ape *Mario 64*'s revolutionary style, and at first glance it looks like Epoch has made an admirable effort.

Five selectable characters and a whole host of weapons and items to use make for some interesting, if not particularly brain-taxing, puzzles, and the colourful graphics move smoothly and, on the whole, without a glitch. Alas, it doesn't take long to spot the cracks. With a clumsy camera that never quite manages to give you the view you need and a severe lack of both places to explore and action once you get there, *Doraemon* is once again worthy only of the label '*Mario* clone'.

Edge rating:

Five out of ten



NHL Powerplay '97

Saturn

Publisher	Sega
Release	Out now
Price	£40

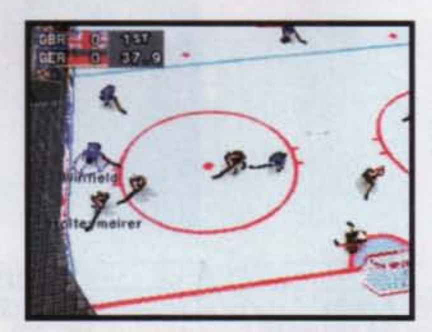
Unlike sports such as football, tennis and rugby, where efforts to transfer the real-life experiences to game environments vary wildly in their success, ice hockey seems to be an easy pursuit to replicate.

The latest proof of this comes courtesy of Tantalus (the Australian codeshop responsible, in part, for the Saturn *Manx TT* conversion). Its example is better than EA's *NHL* titles, comprising a sound game engine with approachable, well-observed puck-punting gameplay. Interestingly, this Saturn version is better than the PlayStation incarnation, a fact which publisher VIE is understandably keen to stress.

Astonishingly, conversion from NTSC to PAL has seen *Powerplay '96* become '97. The game originally appeared on import some months ago, yet cash registers have sat silent while awareness of this desirable product has dwindled. A title as accomplished as this deserves far better.

Edge rating:

Eight out of ten



Star Trek: Generations

PC

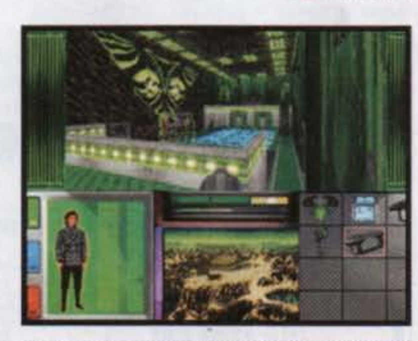
Publisher	MicroProse
Release	Out now
Price	£45

While the 'Star Trek: Generations' movie wasn't exactly a huge success, MicroProse's *Star Trek: Generations* game is entirely different. Like *A Final Unity*, *Generations* is another extension of the NG universe, but now the strange new worlds and civilizations can be explored in atmospheric, *Doom*-like 3D; you can take control of Riker, Worf and even Kirk, beaming aboard disabled warships, exploring deserted alien cities and infiltrating Klingon strongholds.

All the familiar sound effects have been faithfully recreated, faithful voiceovers making it sound and feel like an extended series episode. As you'd expect from the anti-violence TV show, the missions in the game are really about exploring – light on frantic combat, but heavy on Trekky things like re-routing plasma pathways, etc. The graphics engine lacks a hi-tech gleam, but as a 3D adventure, *Generations* is an atmospheric and enjoyable experience.

Edge rating:

Seven out of ten



Namco Museum Volume 5

Namco's Museum reaches its conclusion with some of the best games of the series, once again offering mainstream fare such as *Pacmania* along with a clutch of obscurities

Volume 5 is perhaps Namco's most accomplished compilation so far and, fittingly, the final pack in the first (and possibly only) series. Stand-out games are the late-'80s variants on established formulas, *Pacmania* and *Dragon Spirit*, while the obscure but irresistible *Legend of the Valkyrie* makes a welcome inclusion as the oddity in the pack, a game that owes a lot to more to a console action RPGs than its coin-op origins would suggest and a great example of Japanese design.

The two other titles included, *Baraduke* and *Metrocross*, offer limited fun but are still of a higher standard than some of the older inclusions on previous volumes. Once again Namco has included the option to run the games in their native screen modes so that games such as *Pacmania* can be played in their original glory by those brave enough to chuck the telly on its side. **E**

Format:	PlayStation
Publisher:	Namco
Developer:	In-house
Price:	¥5,800 (£30)
Release:	Out now (Japan)









Top picture group, clockwise from top left: *Pacmania, Baraduke, Metrocross, Legend of the Valkyrie* (centre pic: *Dragon Spirit*). The new 3D interface (above) is almost as much fun as the games

More classics due

Konami has yet to release a catalogue of mixed arcade classics but it has already delved into its past with collections of games from established shoot 'em up series. So far only *Gradius* and *Parodius* have received conversion treatment but soon the equally timeless *Salamander* (1986) will be making it to the 32bit consoles. The package also includes the *Lifeforce* (1987) and a conversion of last year's *Salamander 2* coin-op (below – see **E**31). The compilation will appear on the Saturn in mid-June with a PlayStation version arriving a month later.

In other retro news Capcom is rumoured to be developed the first in a series of compilations based on its own archives of cherished classics. *Capcom Anthology Volume 1* is expected to include *Side Arms*, *Black Tiger* and the lesser known *Son Son*, but no official announcement has yet been made.



Sparcade

While software publishers have been coining it by releasing commercial retro game packs, underground coders have been doing it for themselves – and coming up with the goods

It's unlikely that *Microsoft Arcade*, *Namco Museum* and *Williams Greatest Hits* quite knew what they were starting when they blazed the trail for the idea of genuine arcade-perfect emulation. With home hardware finally up to the task of replicating vintage coin-ops at the full original speed, nostalgics, historians and the merely curious lapped up ports of even the dodgiest of first- and second-generation coin-ops. A whole clutch of bedroom PC programmers couldn't wait for their favourites to be converted, though, and embarked upon a remarkable philanthropic crusade to bring the games to the world.

The PC arcade emulation scene is now one of the most dynamic areas of activity in the whole world of videogames, with a new emulator springing up practically every day. Most, however, concentrate on a single game, or a small family of related ones (like the *Mr Do* series). Dave Spicer's Sparcade is different, using a small core program to emulate the basic generic workings of coin-op hardware, which then enables dozens of tiny driver files to run a whole range of games via copies of the original coin-op code downloaded from the genuine ROM boards.

At the moment, there's some uncertainty as to the future of the full release of Sparcade, which runs over 70 different games, but anyone can download the current public version, which plays around 20 titles, including *Starforce, Space Invaders, Galaxian, Phoenix, Pengo, Pac-Man, Zaxxon, Amidar, Centipede, Scramble, Lunar Rescue, War of the Bugs* and several official and unofficial variations on said games (eg *Super Galaxian* and *Space Invaders Part 2*). Lurking in the wings waiting for release are the likes of *Bomb Jack, Moon Cresta, Millipede, Tron* and *Donkey Kong*.

Almost all of the games are emulated perfectly (by definition, since they're running the exact original code), although a few currently lack sound, and amazingly, the emulator is completely free – all you have to do is supply the ROM images, which can be widely found on the Internet or copied from your own PCBs. **E**

Format:	PC
Publisher:	n/a
Developer:	Dave Spicer
Release:	Out now (shareware)
Origin:	UK

Because they use true coin-op code, Sparcade games such as (from left) *Zaxxon, Pengo* and *Scramble* are carbon copies of the originals







Pick up Starcade at http://www.hubcap.demon.co.uk/sparcade.htm in order to play (from left) *Amidar, Space Invaders* and *Bomb Jack*

EDGE magazine May 1997

Gallery

Edge casts a discerning eye over the minor works of art that illustrate the latest in interactive entertainment. This month, French outfit Cryo shares its *Dreams* and Rare reveals art from its N64 title, *Blast Corps*

These stunning images are featured in Cryo's forthcoming PC title, *Dreams*. It's not hard to see the rich rendered heritage of the French company, which produced such visual feasts as *Lost Eden* and *Dune* when CD-ROM first appeared, using the original *3D Studio*.

Since then, of course, the art has advanced to a point where many of these sequences are indistinguishable from the special effects seen in most Hollywood productions.

'We wanted to show the variety of settings in the game,' says Thierry Doizon, one of the designers on the *Dreams* project, 'and the way in which they reflect the realm of dreams – the kind of dream one might actually experience.'

All images rendered on PCs using *3D Studio 4* and *Adobe Photoshop* and animated in-game by *Premiere* and the *Polhemus* motion capture system.

Images created co-operatively by Eddy Neveu, Florence Lesaffre, Laurent Bretonniere, Martial Biard, Olivier Venet, Gregory Leborgne, Sebastien Bortin, Francois Hommet, Isabelle Ramnou and Christian Farcy

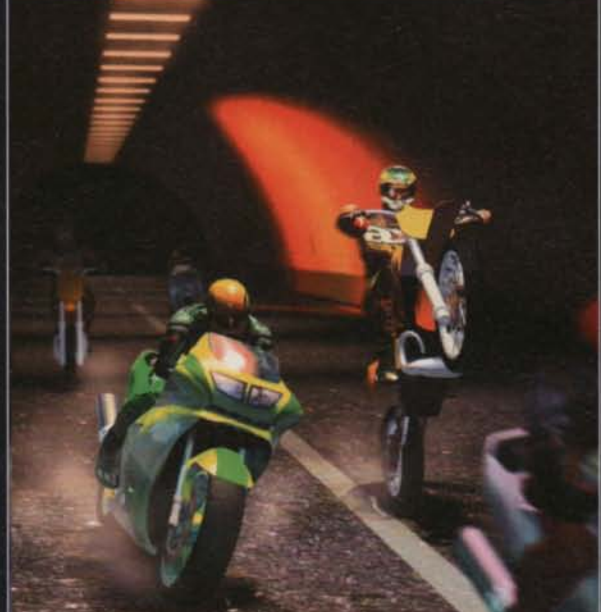








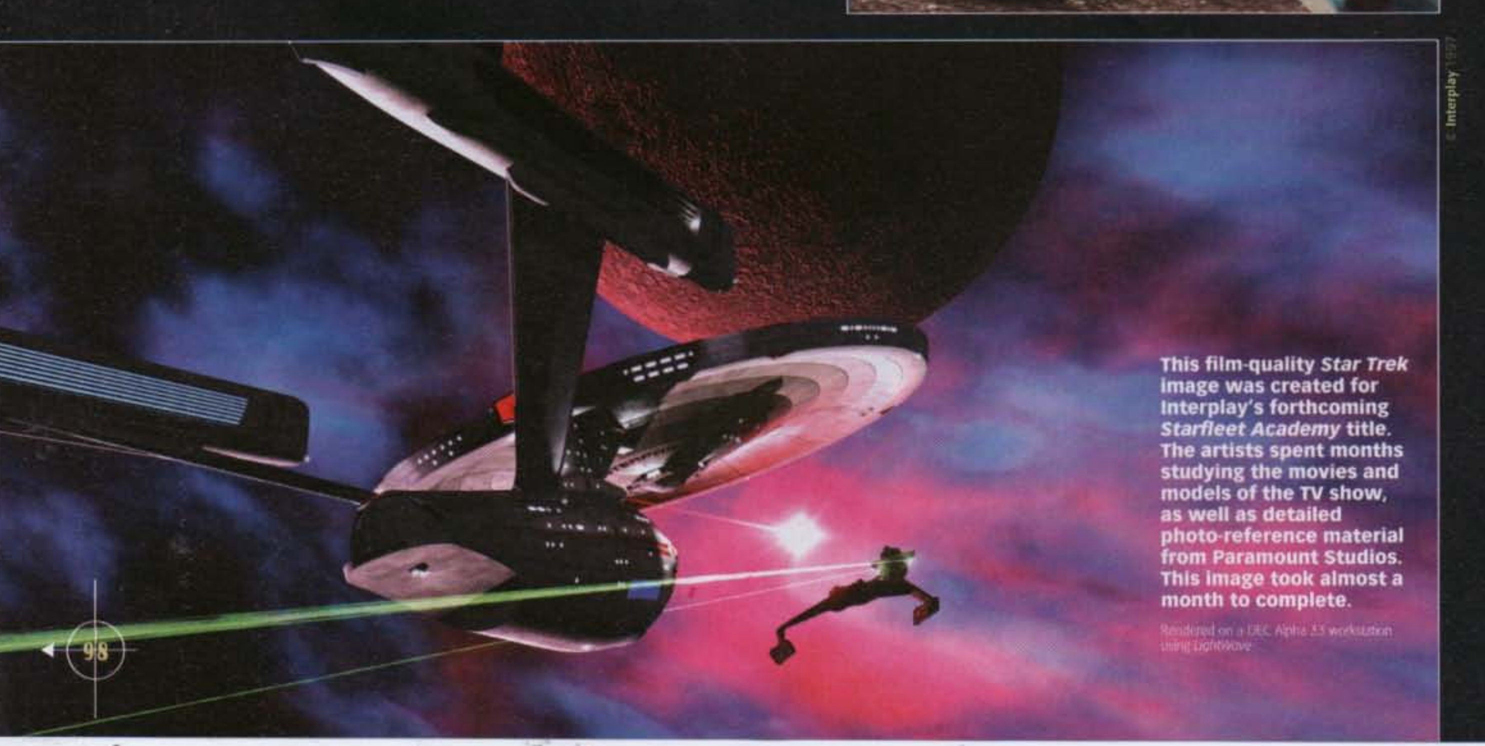




These bike images were created for Delphine's arcade-style PC racing title, *Moto Racer* in the ever-popular *3D Studio*.

'We used to do all our rendering at Delphine on SGIs,' admits Thierry Bansfront, one of the designers responsible, 'but it's really more efficient to work on PCs most of the time now because it allows us to create an integrated working environment where we can easily switch from *3D Studio* to *Photoshop* or to our in-house tools. But we still use *Alias* on SGIs for the really sophisticated scenes and animations.'

All images rendered on PCs using *3D Studio 4.0* and created by Delphine's Thierry Bansfront, Anne Fossa and Yan Le Gall



This film-quality *Star Trek* image was created for Interplay's forthcoming *Starfleet Academy* title. The artists spent months studying the movies and models of the TV show, as well as detailed photo-reference material from Paramount Studios. This image took almost a month to complete.

Rendered on a DEC Alpha 33 workstation using Lightwave



Though Rare is a thoroughly British development outfit, its artists have an uncanny knack for strong character design of the quality more commonly associated with Japanese-bred titles.

This *Blast Corps* scene, which brings together many of the N64 game's modes of transport, is typical of the company's approach.

Image created using *Alias Wavefront*

In the wake of Model 3, Konami is flexing its own technological muscle with the Cobra-powered *PF573*. Sega, meanwhile, is turning its baseball cap around

PF573



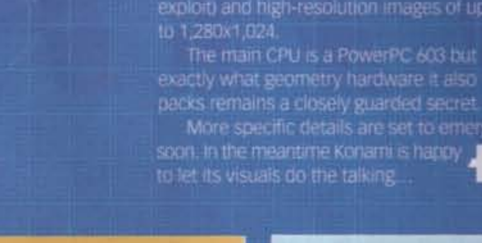
Konami's Cobra board was first unveiled at the JAMMA coin-op show last September

While it has yet to reveal playable versions of games running on its Cobra coin-op technology, the contest to produce the most realistic 3D graphics in the arcade may have already been clinched by Konami if its latest technology demos are anything to go by.

The company's first push into the world of high-end 3D software goes under the distinctly odd-sounding prototype moniker of *PF573*. And it's not surprising that it has elected to explore a proven game genre – the beat 'em up – given that such a popular approach is guaranteed to create a stir, regardless of its presentation.

PF573 takes the basic presentation set by *Virtua Fighter 3* but adds more polygons and better shading to get rid of the awkward joins between fighters' limbs. The result is a game with the most detailed characters yet seen – even if the designs themselves do pay a little too more 'respect' to those conceived by Sega.

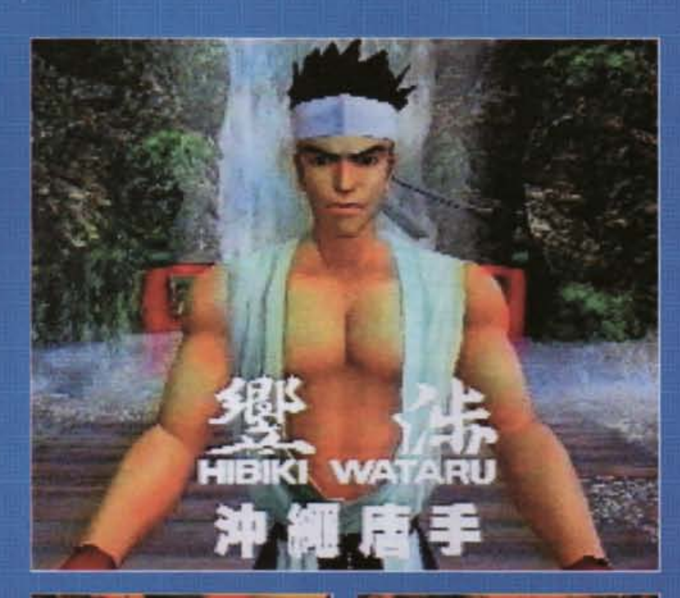
Other visible enhancements over *VF3* can be seen in the backdrops which make good use of lighting and weather effects. One particularly impressive section sees the fighters trampling through long grass as they spar in an enclosed arena while another sees torches casting amazingly realistic lighting on backdrops and fighters.



The Cobra board, designed by Konami in cooperation with IBM's Japanese arm, allows the display of between one and five million polygons per second (although it's not known how many these first games exploit) and high-resolution images of up to 1,280x1,024.

The main CPU is a PowerPC 603 but exactly what geometry hardware it also packs remains a closely guarded secret.

More specific details are set to emerge soon. In the meantime Konami is happy to let its visuals do the talking...









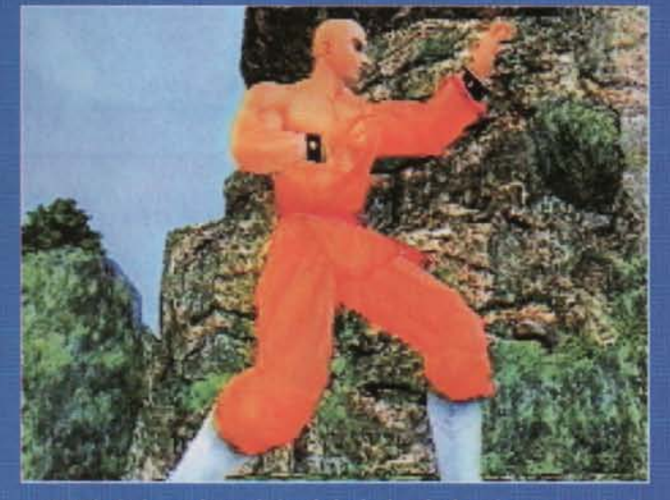






In keeping with fighting game lore, *PF573* offers a diverse range of characters and locations (above). These reflective textures (above right) are very Sega





***PF573*'s designers have obviously looked at the beat 'em up standard bearers from Sega and Namco when creating the game's fighters (top). The Cobra board's power allows for the creation of the most realistic realtime characters to date, with incredible levels of detail (above)**



Developer	Konami
Release	TBA
Origin	Japan

Top Skater





Though *Top Skater* places a strong emphasis on players completing courses in fast times, performing stunts, including riding side rails (left) are vital in racking up points. The game's courses are structured in order to encourage players to really push the boat out with manoeuvres (right)







Sega has become so commercially aware that *Top Skater's* characters even sport trainers licenced from real-world footwear manufacturers – Vans, in this instance (top)

Given the recent skateboarding rival and the increased prominence of boarding sports in general, AM3's latest project comes at a timely juncture to cash in on the phenomenon.

And, given *Top Skater's* design and overall concept, there's little hiding the fact that it seems to have been developed almost solely with the American and European markets in mind.

Like Namco's *Alpine Surfer*, *Top Skater* employs a skateboard that the player stands on and manipulates by adjusting body weight on the front and back of the board. For example, jumps can be achieved by pushing on the back and releasing pressure on the front, while all manner of stunts are also at the players' disposal. In fact, parts of the gameplay in *Top Skater* can be traced back to the the seminal Atari coin-op *720°*, which rode on the back of the skateboarding phenomenon the first time around.

While careering around circuits gives *Top Skater* the look of a racing game, its core gameplay centres around the player's ability to pull off impressive stunts and being able to pick up bonus items to further boost the score.

Despite being powered by Sega's dated Model 2 technology, *Top Skater* still manages to impress with some stunning visuals and a unique brand of testing, rewarding gameplay. **E**













Players are given letter gradings based on the quality of their tricks (right). Though *Top Skater* uses the Model 2 board, it still manages to retain a visual flair that is the equal of similarly styled games from its biggest coin-op rival, Namco. It's surprisingly fast, too...



Developer:	Sega (AM3)
Release:	June (Japan)
Origin:	Japan

(viewpoint)

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(e-mail: edge@futurenet.co.uk)

Save us from MDK

Following the high score you awarded *MDK* [below] in issue 43 I bought the game.

After several attempts I managed to survive for about 30 minutes but had still not reached a point where I could save my game position.

Even though all the comparable games, such as *Tomb Raider*, *Quake*, etc, allow the gamer to save at any point **Edge** neglected to flag the giant leap backwards that *MDK* had taken. Limited save points may have been a way of extending the lives of cartridge games but it is not acceptable in the days of CD-ROMs. PC gamers tend to be adults with jobs and families and little leisure time. They do not want to spend that time in tedious, repetitive gameplay.

Why did **Edge** not mention this in the review? As far as this gamer is concerned it renders the game virtually unplayable (or, more accurately, playable but at the expense of a monstrous pain in the arse).

Perhaps my biggest worry is that this apparently unreasonably high score happened to be given to a game produced by a game producer you particularly favour. I am talking here about the complimentary articles on Dave Perry, the monthly rent-a-quotes from him, the jokey pictures of him with his hands around the editor's neck, etc. Aided and abetted by **Edge**, Dave Perry is right now laughing all the way to the bank, leaving **Edge** with a load of disgruntled readers.

I think you've been had.

B Condon,
via e-mail



Your complaints seem in tune with a mass of gamers in the US who have forced Shiny's hand – the company has now produced a patch for *MDK* which allows less able players to save whenever they see fit. No doubt those same people (probably spoilt, incidentally, by the instant save options in games such as *Doom* and *Quake*) will be complaining that it's too easy once the option is in place.

Regarding Dave Perry himself, **Edge** believes that the imagination, originality and depth of games such as *MDK* justify the coverage his Laguna-based codeshop receives.

Expecting **Edge** to ignore Dave Perry is akin to expecting a music publication to ignore Blur or Underworld.

(*Tomb Raider* does not allow players to save at any point, incidentally, rather it provides save points at strategic locations throughout its vast levels).

UK N64? No thanks

I can't understand the mentality of some people who read your magazine and then decide to write to your letters section (me excluded, of course). I refer specifically to the letter from Andrew Giles in issue 44.

There is no getting away from the fact that after spending £250 on the UK Nintendo 64 you not only pay approximately £150 pounds more than the rest of the world but you also get a slower version and the infamous black borders top and bottom. I can only assume that Mr Giles has never played on an imported machine, as there is a significant difference. This applies to all consoles released in the UK and not just the Nintendo 64. All I would say to potential N64 owners is, first play on an imported machine, then a UK one – and then decide.

Peter Robinson,
via e-mail

Three points for Montes

Having just read Juan Montes' outrageous comments in issue 44's hardware supplement, a few things occurred to me:

1. He's stupid ('looking at the N64, I've not seen any games that demonstrate capabilities beyond the Playstation').
2. He's blind ('*Mario*... is not a new generation of platform gaming').
3. He's arrogant ('The N64 will also not have high quality productions such as... *FFVII*').

He can't be talking about the same machine, then. You know, the one that has just officially become 'the fastest-selling console in history'.

The one that's forced a massive price drop for the PlayStation within a month of its release.

The PlayStation has at best ten titles worth buying. The threat from a machine whose entire catalogue barely matches that is obviously more stress than the poor man can bear. Even Sony would admit to a grudging respect (and admiration) for Nintendo and its enviable history, something Mr Montes is evidently too stubborn to acknowledge.

And dear Andrew Giles: of course **Edge** should cover imported N64 titles. Without the import scene, you probably wouldn't have an N64 right now.

Edge's views are highly regarded and I'm quite sure Nintendo doesn't mind an impartial opinion on forthcoming UK titles. That way, you know what to expect and whether to start saving or not.

Oh, and by the way, *WaveRace*, *Blast Corps* and *J-League* are all great. How long before you can say the same?

Julian Roche,
via e-mail

Making the N64 loop the loop

I read with interest your article on Innerloop in issue 43. If landscapes this accurate are possible using so little storage space then big things could soon be happening.

Small storage spaces, moderate amounts of memory and high resolutions seem native to one format – the N64. It has already proved itself as a viable platform for flight simulation with *PilotWings 64*, and with an analogue control mechanism, plenty of buttons and a facility for mission discs (via the 64DD) to boot, it seems to yearn for more.

Just imagine *PilotWings* played over satellite-mapped areas of realistic landscape!

David Shanks,
Stockport, Cheshire

Innerloop's technology has received a lot of attention since **Edge** recently debuted its IFS realtime rendering technology. The potential for porting it to consoles must be a tempting one for the Norweigan team although no decisions have yet been taken. Certainly on the N64 it would open up a whole new world of game design possibilities

Is it just me?

I'm probably in a tiny minority here, but I wonder am I really the only person in the whole of the western hemisphere who thinks Core Design's *Tomb Raider* was the most overrated game of 1996? Admittedly the game features an impressive graphics engine and offers mildly addictive gameplay, but it's difficult to comprehend why so much adulation was heaped upon what can only be described as a mediocre *Prince of Persia* clone, with a gratuitous 3D engine tacked on to it. Adding insult to injury was the fact that Core didn't even see fit to remedy *PoP*'s sluggish controls with a more responsive set of commands – a cardinal sin of game design, as pointed out by Shiny's Dave Perry in **Edge** 41.

It may seem unfair to single out *Tomb Raider* for criticism considering that there were hundreds of inferior games released during 1996, but few of these releases were greeted with such high critical acclaim. It's interesting to note that when interviewed recently the team responsible for *Tomb Raider* cite such classics as *Rygar* and *Shinobi* as influences on their current game designs. I therefore hope that the team's forthcoming releases, such as *Ninja* and *'Fighting'*, incorporate the instinctive gameplay that made the aforementioned classics so enjoyable.

Simon Cann,
Cinderford, Glos.

Edge recognised *Tomb Raider*'s achievements on several levels: first, it set a benchmark at a time when 3D platform games were largely uncharted territory.

Second, it delivered a gaming experience that represented lasting entertainment.

To this end its huge physical size did expose how limited and underdesigned most 32bit software is. Of course, *Tomb Raider* isn't perfect, but calling it a mediocre *Prince of Persia* clone is the equivalent of labelling *Turok* an 'average *Wolfenstein* rip-off.'

Is it just me, too?

Is it just me or has anyone else noticed how the M2 seems to be treading its predecessor's route of overstated claims and a whiff of pork pies? In the February issue of **Edge** we saw supposedly 'in-game' shots of *Power Crystal* [below]. Then in March these same shots were joined by a range of blocky, bland, cardboard-looking images with some decidedly sprite-looking trees, et al. I would suggest that perhaps the more tasty images are of the prerendered intro variety and the Legoland stuff is our in-game M2 sample. Which then leads me to turn to the shots of *Zelda 64* in the same issue which, although also unfinished, look about one hundred times better than the M2 variety. Oh dear. Has Matsushita destined itself for the same old 'trip' as last time?

Richard Johnson,
High Wycombe, Bucks.



Edge made it clear that the shots printed in E42 and E43 were a mixture of 'mocked-up' images rendered in *3DS* at a higher resolution, and real in-game screenshots. *Power Crystal* may lack the visual clout of *Zelda 64* but **Edge** witnessed the game running on an incomplete development system capable of significantly less processing punch than a final M2 unit – and remember that its creator Perceptions has considerably less artistic resources to draw on than Nintendo. Having said that, **Edge** shares your concerns about M2's performance and until more titles are revealed it remains sceptical about the Trip Hawkins' original 'quantum leap' over the competition.

Wow... nothing to do

You kindly printed a letter from me complaining that you gave *Mario 64* ten out of ten (Letters, E37). Well, I now own a Nintendo 64 and *Mario 64* and I've played it to death. Wow... The freedom of movement you have to go exactly where it wants you to is fantastic! Then there are the truly original factors in the game such as avoiding cannonballs rolling towards you! Am I over-reacting here? Well, no more than you did in your review.

Seriously, it's a great game and I'm even more happy that you now give great games eight out of ten because of *Mario 64*. I'm still not convinced it's the greatest game ever made, though. I just feel that I've got nothing to do in the game; don't ask me why – I can't explain it. I'm not sure it works as a game. I know it works as a showcase but it's missing something – excitement. Yes, that's it – it dazzles you, impresses you, but never excites you. I've got to wonder if I'm the only one who feels this way? Is there no-one at Edge or any of your sister magazine who felt it was more of an experience than a game ?

Samuel E Maxwell,
via e-mail

This sounds more like a case of differing personal taste than a deficiency in *Mario 64*'s design. In some respects *Mario 64* is perhaps a bad example of a game that is intended to 'excite'. It constantly captivates, amuses and amazes, for sure, but if you're looking for heart-racing excitement then perhaps you'd be better seeking out more perilous thrills than searching out golden coins. *Doom 64* should do the trick.

Seeing double

Okay, let's talk about VR glasses. We all know that to get a 'stereo' 3D picture we need two images, one for each eye – the object that 'differs' most is considered by the brain to be close. But to do this we need to project two different images (one for each eye), so we need two processors (or, more likely, two consoles). Wait a minute. A lot of people, myself included, hook their PlayStations together to enjoy twoplayer games like *Wipeout* and *F1*. So there are the two consoles. For the programmer, it couldn't be easier: just set two cameras – one for each eye. All we need then is a pair of VR glasses to connect to the two video outputs of the two PlayStations. And then we get a cool, solid, 3D, 'stereo' picture – plus on the big screen. Am I right?

Aristides Mytaras,
Greece

An interesting experiment it might be, but given that most head-mounted VR displays induce nausea and headaches after a short time it's not one that **Edge** is losing sleep over.

More votes, less notes?

Remember when Mr Heseltine promised to investigate the cost of software and pricing scams? I wonder if a potential new government after the next election will instigate a more thorough examination of the undoubtedly highly commercially successful Nintendo pricing policy. With *Turok* being released for £70 in England, we can only wait and hope.

Of course its unlikely that this general election will be fought on any policies whatsoever, let alone the cost of a quick gaming fix.

New Labour... New Nintendo? We'll see.

anonymous,
via e-mail

There's about as much chance of the referendum party inviting votes for and against the inauguration of Mario as Prime Minister. Seriously speaking, with only the Nintendo 64 currently suffering unduly from high software pricing, these days there is arguably less public campaigning for the reduction in game pricing. The high prices of N64 carts is directly related to the manufacturing and licensing costs set by Nintendo itself.

2D or not 2D?

Has every developer completely forgotten how to produce good 2D, sprite-based games? Why must well-established titles be 'treated' to a 3D, polygon-driven makeover? Okay, I'm the first to say that certain games can't be done without polygons; you can't fully simulate the movement of say, a rally car or aeroplane without using some form of physical model, and the freedom of 360° vision that is so essential in deathmatch *Quake* would be impossible. But can anyone really say that it benefits games such as *Street Fighter II* and *Mario*? Clearly the depth of tactics available in the former, and the incredibly clever puzzles in the latter, are created by the 2D setting. What use would a long range projectile attack be if you could simply walk around it? None at all, as evidenced by their absence from *Tekken* et al, and the slightly pointless nature of those found in *Toshinden*. 2D settings impose restrictions upon the game system, and it is these very restrictions which create the gameplay nuances that have kept games such as *Street Fighter II* alive. I would also suspect it is the very reason why the next big N64 platformer, *Yoshi's Island*, will return to a 2D setting. I find *Mario 64* barren and empty, completely lacking the pace and ingenuity that was present in in its SNES predecessors; again, why would you struggle to find a way over a high obstruction if you could simply walk around it? Similarly, try to imagine *C&C: Red Alert* working in 3D; it wouldn't, but I guarantee someone will try it in one form or another. The identity of these titles is defined by their 2D setting; a 3D *Metroid* would simply be *Quake*. The sad fact is that while we sit and wait for developers to get bored with applying polygons to anything at hand, and start thinking about whether or not they actually benefit the player, a lot of excellent titles will be ruined; see PSX *Contra*, *Lemmings 3D* and *Streetfighter EX*.

James,
via e-mail

Edge would take issue with you over *Mario* and argue that in some respects the first 3D version is endowed with a greater degree of control sophistication than its 2D lineage ever offered. Essentially *Mario 64* offers a different – but not necessarily inferior – experience to its 2D ancestors. Do remember that it has taken the best part of two decades for developers to exploit 2D gameplay to its fullest and it will probably take even longer for the potential in the third dimension to be fully realised. Until then, it's inevitable that some of the classic blueprints of the 2D era will suffer when

remodelled in 3D. Hopefully for every *Crash Bandicoot* or *Pandemonium* there will be a *Dracula X* upholding the gameplay values that many game players still hold dearly.

Logged off

I have something to say about the concept of there being an immature hobbyist games programming scene in Japan.

Though Net Yaroze may have been the product to have brought such activities to your attention, there have been similar systems in the past, namely:

• NEC PC-FX GA

This is for DOS/V (IBM PCs with a Japanese writing system) and PC-9800 systems (popular Japanese computers from NEC) to develop games for PC-FX. Costs £250 and comes with C compiler and library (for more information visit: http://www.ntem.co.jp/ntem/nehe/pcfx.htm).

• Family Basic

This enabled users to connect a cartridge and keyboard to an NES and program in BASIC.

• DEVELO

This is from Tokuma Intermedia and lets you develop games for the PC Engine using MSX2 or PC-9800. Costs £30 and is available in both assembler and BASIC forms.

Events like the Enix Entertainment Contest featured in issue 42 are not uncommon, but Enix's competition was first to accept entries from outside of Japan.

Japanese magazines like *Micon Basic Magazine* and *LOGIN* always have sections on reader-submitted games and often offer prizes. Also there are colleges where they teach things about games development.

The reason why I'm writing all this is that I thought this might clear up your question as to why there were eight Japanese runners-up in Enix's competition.

You are right to say that PCs are not popular in Japan, but the games developed for *Windows* for the competition did not have to be PC-based. In Japan there are a lot of different computers like the PC-9800, FM-Towns, etc, and these computers can run *Windows* programs as well as their own OS programs. However, PCs are getting so popular that these machines are now very much like a PC. And you should expect a lot of games developed for PCs by Japanese software houses – Falcom is working on a remake of *Y's*, probably the best Japanese RPG (check http://www.falcom.com/).

I hope you find this information interesting and useful.

Asuka Kuroda, Twickenham

Thank you for your letter. You may be particularly interested in issue 46, which will contain an analysis of the current state of amateur console programming within a new section devoted to the development, covering both the hobbyist scene and the professional industry.

Regression therapy

It is disappointing, to say the least, to see the lack of originality in games today. I am of course talking about the Playstation, and to a lesser extent the Saturn.

Since the consoles' promising release we seem to have regressed back to the 16bit days where a hundred substandard games would drown the market with only one or two noteworthy exceptions.

The PlayStation seems to be the main culprit with its racing games and beat 'em ups. Sony seems proud to point out that it has hundreds of games available in Europe – but how many of these are triple-A products?

Obviously I realise that not every game can be a classic, and nor should it be, but a little variety would help the situation greatly.

Sega seems to have lost out in the hardware war with its fairly small Saturn userbase, in Britain at least. The rumour of a hardware add-on for *VF3* will only cause to dilute this problem more. Sega should do the sensible thing and phase out the Saturn to concentrate on PC and N64 software development, the only platforms that can currently do justice to its increasingly demanding arcade translations. Sega makes great games and it should not deny the rest of the market of its talents.

I believe the N64 to be the only console that has actually moved on from the days of the SNES and Mega Drive. The Reality Engine and analogue/digital joypad, amongst other things, are true revolution. But the hardware comes a definite second to the software. No one can deny that *Mario 64* is a real step forward in gameplay, and I'm sure there will be many more similar hits. If only the N64 retailed at under £200, and was bundled with *Mario*, it would be perfect.

Obviously it's not all this straightforward. The price in the UK is very much a problem and thirdparty support is still struggling. However, the building blocks are there, Nintendo just needs a little time to iron out the teething troubles that every new console experiences.

Chris Wright, Merseyside

A vast amount of poor-quality software was certainly one of the factors that led to the demise of the 16bit console market, and it is certainly worrying that the industry as a whole seems no more proficient with quality control today than it ever was.

There's also been plenty of disappointing N64 software to date, though, and it's too early to hail Nintendo as a saviour.

Northern bints? Yes please

Actually, a game featuring an ex-topless model and mouthy northern bints (Prescreen Alphas, E44) doesn't sound all that bad...

Sultan Arif, via e-mail

(QandA)

SEND QUESTIONS TO: Q&A, EDGE, 30 MONMOUTH STREET, BATH, BA1 2BW

Q **1.** What is the ideal N64 setup to provide best sound, visuals and speed (ie what country machine, type of connection, etc)?

2. What is the best way to connect a UK N64 to a television and hifi?

3. Will the N64 adaptor situation be similar to that of the SNES (ie a new adaptor being required for each new game)?

4. Is the price of the N64 likely to come down, and if so, when?

5. If I was to buy a US N64 is could I convert it to run JAP and UK games? If so would it be fool proof and last forever?

Chris Wright, via e-mail

A **1. & 2.** An American or Japanese N64 converted to RGB and connected to a TV via an RGB (not composite) SCART connection will provide the clearest picture. A close second comes from using an S-Video lead running through an NTSC-compatible TV. Hifi sound is easily provided from the red and white audio jacks.

3. At the time of writing **Edge** had tested one adaptor that allows games to be played on machines of different origin – in the same way as previous adaptors that required a native 'host' cartridge to be plugged into the back of the adaptor. It isn't perfect, though, with *WaveRace* and *Mario Kart* crashing haphazardly when running through it. No doubt revised models will appear soon.

4. Given that the UK price of £250 is substantially higher than the £90 tag it carries in the US and Japan, a price drop would seem unquestionable. When this will occur will presumably coincide with a significant slowing in UK sales (some retailers are already holding unsold stock). Expect one before the Autumn, though.

5. Conversions of imported N64s are common policy but there can be no guarantee whether this will affect the longterm lifespan of the machine – it's unlikely but obviously depends on the quality of the simple conversion process undertaken; it might be worth getting some kind of guarantee from your specialist outlet.





Melbourne House is a name old enough to bring tears of nostalgia to the eyes of gamers everywhere. Its 8bit classics, including *The Hobbit* and *Way of the Exploding Fist*, signalled new directions for the videogame development community, and the company has been busy ever since building a catalogue of multiformat titles. Edge flew halfway around the world to put together a comprehensive report on the company's first wave of next generation titles.

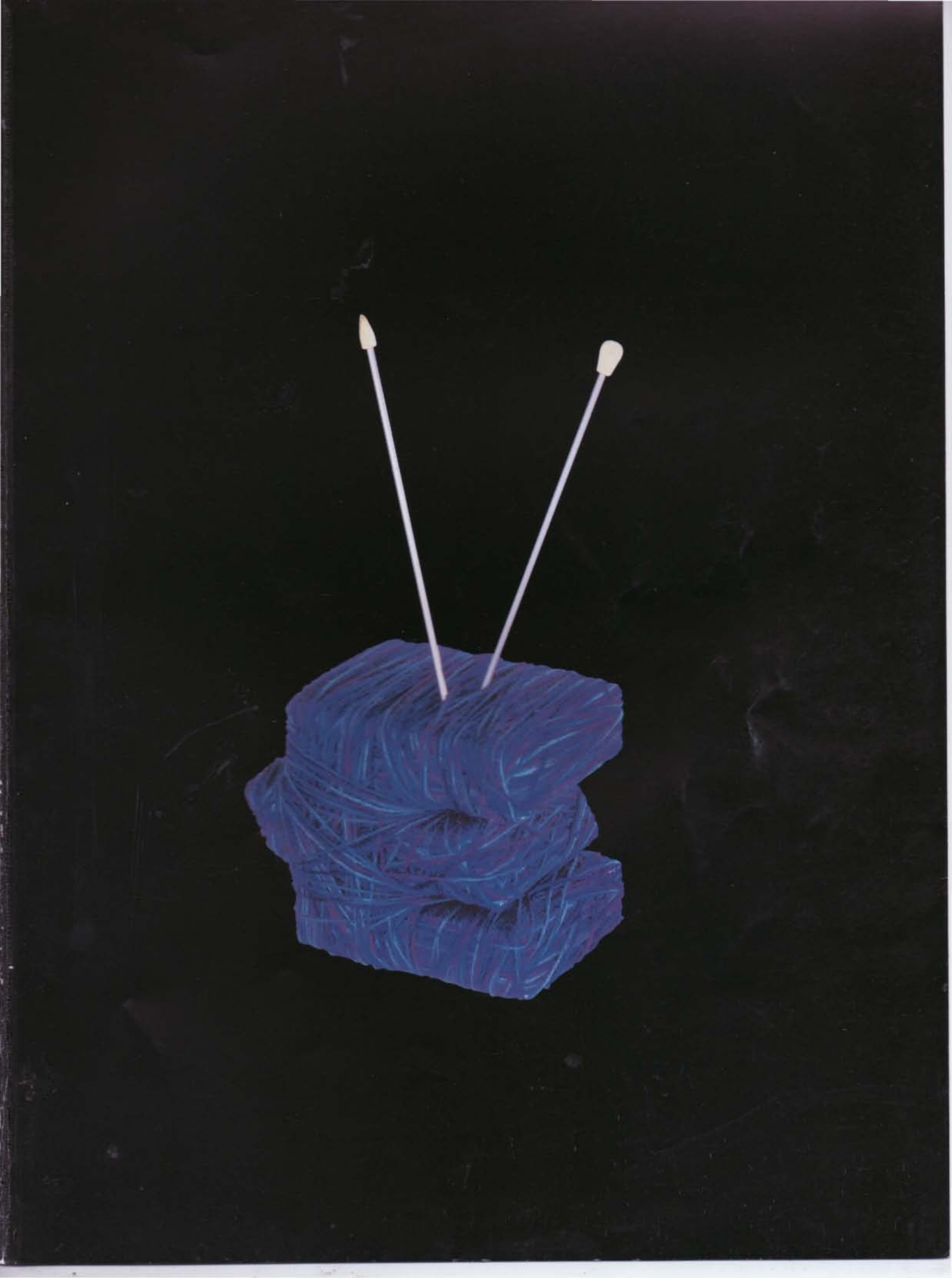
Plus, E45 unveils the work being undertaken by premier Parisien developer Delphine. The team that created the superlative PC racer game *Moto Racer* has come a long way since its experimental 'cinematique' adventures. Edge explores a 3D title set to push its previous classic *Fade to Black* firmly into the shadows.

Also, issue 45 will be bundled with an exclusive supplement dedicated to one of the UK's most distinguished and respected development houses, Bullfrog Productions. Edge looks at the origins of the company, speaks to its founder, Peter Molyneux, and takes an extensive look at *Populous 3*, the highly anticipated sequel to the game that set the company on its path to success...

issue forty-six

on sale May 29

Image from Melbourne House's *Alien Earth*




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